

Table of Contents

LETTER FROM THE COMMISSIONER.....	2
INTRODUCTION.....	3
SUPPORTING FLORIDA AGRICULTURE.....	4
• Statistical Reporting	
• Fruit and Vegetable Inspection	
• License and Bond Service	
• State Farmers' Markets	
• Livestock	
• Animal Disease Control	
• Feed, Seed and Fertilizer	
• Agricultural Law Enforcement	
• Plant Protection, Inspection and Certification	
• Methods Development and Biological Control Projects	
• Entomology, Nematology and Plant Pathology	
PROMOTING FLORIDA AGRICULTURE.....	35
• Florida Sun Fresh Promotion	
• Trade Leads	
• Florida Citrus in China	
• Trade Missions and Reverse Trade Missions	
• Florida Cattle Sales to Puerto Rico	
• Fresh From Florida Magazine	
• Chill It or Grill It! Promotion	
• Florida Market Bulletin	
• Print, Video and Radio Production	
• Promoting Florida Agriculture on the World Wide Web	
• Planet Ag	
• Seafood and Aquaculture Marketing	
• Tropical Fish Campaign	
• American Alligator Campaign	
• Food Distribution	
• WIC/Farmers' Market Nutrition Program	
ENSURING A SAFE, WHOLESOME FOOD SUPPLY.....	44
• Food Inspection	
• Hard Analysis Critical Control Point	
• Food and Residue Laboratories	
• Milk Products	
• Aquaculture	
CONSERVING THE NATURAL ENVIRONMENT.....	54
• Best Management Practices	
• Forestry Programs	
• Forest Protection	
• Natural Resource Management	
• Field Operations	
• Forest Resource Planning and Support Services	
• Forestry Youth Academy	
• Agricultural-Environmental Leadership Awards	
SAFEGUARDING CONSUMERS.....	71
• Consumer Services	
PROMOTING EMPLOYEE EXCELLENCE.....	79
• Training and Development	
• Awards	
EMERGENCY RESPONSE.....	81
• Wildfires	
• Pests	
• Citrus Canker Eradication Program	
• Disaster Provisions	
• Emergency Support Functions	

Letter from the Commissioner



As I travel around the state and watch my fellow Floridians going about their day-to-day activities, I often wonder how many of us realize just how vigorously and positively the Department of Agriculture and Consumer Services affects our lives.

Do drivers know that the quality of the gasoline, antifreeze, and brake fluid that goes into their cars is verified at Department laboratories; that the Department checks and regulates the service station pumps they use to fill their gas tanks; and that the Department's Division of Consumer Services oversees the state's motor vehicle repair shops as well as administering the "Lemon Law" that protects consumers when they buy a new car?

Cattle and horses we see grazing in roadside pastures are healthy because the Department is responsible for administering the state's animal disease program and is ever vigilant against threatening disorders such as brucellosis, West Nile virus, and equine infectious anemia.

Shoppers in a supermarket can enjoy the rows of fresh produce, wholesome dairy products and nutritious meats, because the Department conscientiously monitors more than 40,000 retail food stores

and businesses in Florida to ensure compliance with food safety standards. In addition to regular inspections, the Department also reviews food labels for accuracy and for compliance with federal and Florida requirements. Foods are monitored for pesticide and other chemical residues as well as food pathogens.

Last year, Department field inspectors made nearly 2,300 visits to dairy farms and processing plants throughout the state, collecting and testing more than 7,000 samples of milk.

The Department also monitors seafood products and last year analyzed more than 20,000 water samples from shellfish harvesting areas, testing for coliform bacteria, and resulting in more than 400 area closures and reopenings. Through the Shellfish Processing Facility Program, the Department seeks to ensure wholesome shellfish products through inspection, education, and enforcement of state regulations and national guidelines, conducting more than 600 processing plant inspections a year and issuing more than 120 Shellfish Processing Plant Certification Licenses.

Protecting consumers is only part of the Department's role. It also promotes Florida agriculture through programs such as the Florida Agricultural Promotion campaign, overseas trade missions, "Fresh from Florida" magazine, and marketing promotions like the "Chill It or Grill It" campaign to make consumers aware of the availability and quality of Florida agricultural products. Local community farmers' markets flourish, and with them programs such as the Women, Infant and Children/Farmers' Markets Nutrition Program, a coupon redemption plan which promotes a healthy diet among participants while benefiting farmers as well.

Best Management Practices are in place to conserve the natural environment from dangers such as pesticide contamination in ground and surface water. Professionals from the Division of Forestry help manage and preserve Florida's forested lands while providing equipment, expertise and manpower to fight wildfires. The Office of Agricultural Law Enforcement has a variety of responsibilities, including investigating arson and other agriculturally related crimes as well as supporting emergency response activities.

The Department does all these things and many, many more. This annual report will tell you about them.

Sincerely,

Charles H. Bronson
Commissioner of Agriculture

The stated mission of the Department of Agriculture and Consumer Services is to safeguard the public and support Florida's agricultural economy by: 1) Ensuring the safety and wholesomeness of food and other consumer products through inspection and testing programs; 2) Protecting consumers from unfair and deceptive business practices and providing consumer information; 3) Assisting Florida's farmers and agricultural industries with the production and promotion of agricultural products; and 4) Conserving and protecting the state's agricultural and natural resources by reducing wildfires, promoting environmentally safe agricultural practices, and managing public lands.

The Department's activities cover not only agriculture but consumer matters as well, making Florida's the largest and most diverse state agriculture department in the country. The Department offers support services that include collecting statistics on production, administering animal health programs, testing feed, seed and fertilizers, and conducting plant protection, inspection and certification programs.

The Department's far-reaching agricultural responsibilities include promoting Florida agriculture through numerous advertising and marketing campaigns aimed at increasing domestic and foreign sales.

Florida's extensive coastline makes it a major supplier of seafood, so the Department provides seafood marketing and educational materials to producers, wholesalers, retailers and consumers. The Division of Aquaculture administers the shellfish evaluation and assessment programs, shellfish processing plant inspection, shellfish laboratory, and the Department's aquaculture component.

The Department enforces animal and plant health regulations designed to control the spread of pests and diseases. It inspects feed, seed, fertilizer and other agricultural products to ensure that the farmer as well as the backyard gardener get what they pay for.

Programs to preserve Florida's natural environment focus on the regulation of pesticides, promotion of Best Management Practices for soil and water conservation, education of the public about conservation issues, and management of state forests and other public lands.

Department personnel regularly inspect food processing, distribution and retail facilities, and Department laboratories perform thousands of sophisticated analyses of food samples to ensure a safe and wholesome food supply. One of the Department's primary concerns is the prevention of food-borne illness, and the Department has the authority to halt the sale of any products considered hazardous to the public. The Department also enforces the country-of-origin law, and since the passage of the North American Free Trade Agreement has increased its analyses of imported produce for contamination and pesticide residues.

The Department is the official state clearinghouse for consumer complaints and also functions as Florida's agent for the U.S. Consumer Product Safety Commission regarding product recalls, inspections and investigations. It also conducts inspections of the petroleum distribution system and analyzes samples of petroleum products; regulates the accuracy, condition and use of all weighing and measuring devices; and is responsible for safety inspections of amusement devices and attractions.

Through the Florida Mutual Aid Plan, the Department participates with other state law enforcement agencies as primary responders in cases of emergency, and is the state's lead agency in acquiring food, water and ice for disaster victims. The Department is also designated as the liaison to coordinate the care and welfare of livestock and pets in the event of disasters. When wildfires threaten lives and property in the wildland/urban interface, the Department's trained firefighters respond.



Supporting Florida Agriculture

STATISTICAL REPORTING

Reliable information is essential for making decisions about production, marketing and policy for the agricultural community. The Florida Department of Agriculture and Consumer Services shares in a cooperative federal/state program responsible for collecting and disseminating Florida agricultural statistics. Information on the state's major commodities is gathered through on-site producer surveys, voluntary mail questionnaires, and telephone and personal interviews. Statistics compiled from these data are available in more than 200 reports issued annually.

In the past year, the program's public relations efforts included staffing informational booths at citrus, floriculture and aquaculture trade shows. These booths help the Department promote its role in the industry and increase the visibility of its reports.

In 2000, Florida's agricultural cash receipts amounted to \$6.95 billion, 1.4 percent higher than in 1999. Cash receipts were higher for fruits (other than citrus) and nuts, vegetables, cattle and calves, and floriculture, but lower for citrus, field crops, milk, poultry and eggs.

Florida leads the nation in cash receipts for oranges and sugarcane and ranks second in cash receipts for tomatoes, strawberries, and greenhouse and nursery crops. Florida also leads the nation in production of citrus, sugarcane, foliage plants, cut floral greens, and tropical fish.

Citrus

An initial citrus production forecast is issued in October and modified monthly throughout the citrus season based on fruit size measurements and observations on droppage. These forecasts are based exclusively on objective data obtained directly by field personnel, including an extensive limb count survey conducted from July into September to estimate fruit set per tree. Production for the 2000-2001 season for all oranges was 223 million boxes. Total grapefruit production was 45.9 million boxes.

Cash receipts for all citrus crops sold in 2000 totaled \$1.67 billion compared to \$1.71 billion in 1999. Citrus sales account for 24 percent of all cash receipts in 2000.

Vegetables

Cash receipts for all vegetables amounted to \$1.46 billion, which was 21 percent of the total cash receipts in 2000. Tomatoes, peppers, sweet corn, cucumbers and snap beans accounted for the largest amount among vegetable crops.

Greenhouse and Nursery Production

The total value of Florida greenhouse and nursery production exceeds \$1.5 billion. The foliage and floriculture industry contributed \$798 million, up from \$671 million in 1999.

Berries and Melons

Strawberry production for 2000 was up from the year before, and despite a lower average price, cash receipts increased to \$168 million. Lower prices and a much lower production for watermelons resulted in a decrease of 37 percent in total value to \$45 million in 2000.

Field Crops

Potato production in 2000 decreased 21 percent from the previous year and a lower average price resulted in cash receipts of \$88 million to growers, 30 percent below 1999. Sugarcane production was up slightly from the previous year, but the \$442 million total cash receipts were 13 percent below 1999. Cash receipts for peanuts decreased 11 percent to \$54 million due to a production decrease of 18 percent. Tobacco growers produced 11.5 million pounds of tobacco, valued at \$20 million in 2000. Slightly lower production for cotton lint and cottonseed produced cash receipts of \$28 million in 2000, compared to \$29 million in 1999.

Supporting Florida Agriculture

Other Fruits and Nuts

Receipts for other fruits and nuts, such as avocados, blueberries, mangos and pecans increased 11 percent to \$84.8 million.

Dairy

Milk production increased by 2.6 percent in 2000, but lower prices led to decreased receipts of \$384 million compared to \$412 million in 1999.

Cattle and Calves

Beef cow numbers decreased during 2000. Higher prices and increased cattle marketings resulted in cash receipts for all cattle and calves of \$371 million compared to \$310 million in 1999.

Poultry and Eggs

Egg sales in 2000 totaled \$108 million, virtually the same as in 1999. Broiler production was down slightly in 2000, and sales decreased to \$227 million from \$246 million in 1999.

Aquaculture

Aquaculture contributed more than \$90 million to total cash receipts. Tropical fish sales accounted for more than half of all aquaculture sales.

Honey

Florida was fourth in the nation in honey production in 2000 with 24.4 million pounds valued at \$13.2 million.

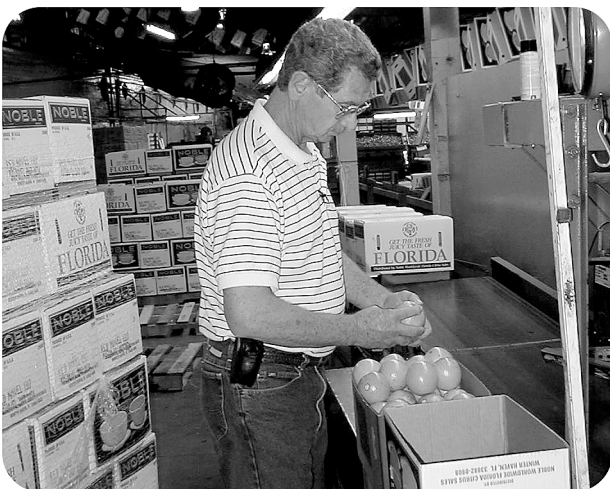
FRUIT AND VEGETABLE INSPECTION

The Department's Division of Fruit and Vegetables serves as a third party to provide on-request inspections for the purpose of certifying the quality and condition of produce shipped in and out of the state to national and international markets. The Department's services, provided in cooperation with the U.S. Department of Agriculture, enhance the marketability of fruit and vegetables produced and imported into Florida.

Department inspectors and personnel spent more than 311,000 hours inspecting 13,240,608 tons of product in processing plants, packing houses, terminal markets, and shipping points during the 2000-2001 season.

Committed to meeting the needs of Florida's fruit and vegetable industries through fiscally responsible quality assurance and technical assistance services,

the Department continually strives to find innovative and cost-effective methods of inspection. With



new programs like Partners in Quality and the Customer Assisted Inspection Program, customers participate in the inspection process using plant staff with Department training and supervision.

Further, the Department continues to pursue advanced technology as a way to streamline information transfers and limit redundant clerical activity. FreshNet, an internet-based electronic transfer-of-information system, allows fresh citrus packinghouses to electronically record and send shipping documents to the Department. In turn, the Department can provide timely information that growers and shippers can use to efficiently market fruit.

LICENSE AND BOND SERVICE

The Department continued its support of Florida agriculture by administering Florida's Dealers in Agricultural Products Law. This law ensures that Florida producers of agricultural products covered by the license and bond provisions receive proper accounting and payment for their products. The Department issued 4,245 licenses and collected \$557,768 in license fees during fiscal year 2000-2001. The Department managed \$76,270,142 in bond protection for Florida growers.

Complaints against dealers in agricultural products must be filed within six months from the date of sale and total a minimum of \$250. Department personnel completed 29 unlicensed dealer complaint investigations and 113 licensed dealer complaint investigations in the past year, resulting in a recovery of \$823,630.68 on behalf of Florida agricultural dealers.

The Department closely monitors dealers to ensure they maintain adequate bonds to protect Florida growers. Department personnel conducted 420 bond and compliance audits of dealer's records during the year. These audits are designed to ensure that bond amounts are maintained; to determine whether unlicensed dealers are exempt from license and bond requirements; to determine if prospective licensees are conducting business in a manner requiring licensure; and to document violations of Department enforcement actions.

The Department opened 40 new enforcement cases, closed 40 cases, and collected \$17,357.10 in administrative fines during fiscal year 2000-2001. Enforcement actions resulted in an additional \$292,831 of bond protection for Florida growers, and 16 of the cases ended in licenses being issued. A new administrative fine structure implemented this fiscal year resulted in decreasing the amounts that could be negotiated for violations and an overall decrease in the amount of administrative fines collected. The implementation of new requirements regarding the use of process servers has caused a slight increase in the cost of processing enforcement cases.

STATE FARMERS' MARKETS

The Department manages four major program initiatives: State Farmers' Markets; community farmers' markets; Women, Infants and Children/Farmers' Market Nutrition Program (WIC/FMNP); and county fair permitting.

State Farmers' Markets tenants and clients marketed a wholesale value of \$213,462,000 in produce, livestock, and value-added products during the fiscal year. Approximately 29,700 WIC recipients redeemed \$303,000 in FMNP coupons at their local community farmers' markets. This program promotes a healthy diet by encouraging consumption of fresh fruits and vegetables by WIC mothers and children while boosting farmers' sales at participating locations.

Supporting Florida Agriculture

The community farmers' market program assisted in the establishment of nine new farmers' markets, bringing the total number of markets in operation to 50.

LIVESTOCK

Through its Division of Animal Industry, the Department serves the animals and citizens of Florida by preventing, controlling, and eradicating certain infectious or communicable diseases of livestock and other domestic animals. In enforcing Florida's animal health regulations, the Department also works to protect the state from animal pests and diseases that threaten economic and public health.

The Department's primary objective is to reduce the number of animals infected with or exposed to dangerous transmissible diseases. It does so by many means:

- Detecting diseases by inspecting livestock on farms and ranches, administering programs, and monitoring sentinel sites.
- Testing livestock using animal-related diagnostic laboratory procedures.
- Promoting and mandating healthy, sanitary, and humane care and confinement of livestock.
- Regulating, administering and enforcing laws identifying the origin and health status of imported animals through permits and health certificates.
- Teaching producers, private practitioners and the public about regulatory requirements.
- Developing and practicing emergency response plans in preparation for encountering foreign animal diseases or other disasters.

Screwworm

Screwworm is the common name of a pest native to the tropical areas of North, South, and Central America that causes extensive damage to domestic livestock and other warm-blooded animals when the larvae of this pest feeds on the raw flesh of the host animal. Rare human cases have been reported.

In October 2000, a private veterinarian in Palm Beach County reported finding screwworm larvae in the umbilical cord of a calf within a few miles of where larvae had been found in a horse six months prior. The veterinarian submitted the larvae sample to the Mission, Texas, USDA Screwworm Laboratory, which issued a preliminary diagnosis that the larvae were screwworm. The sample was forwarded to the National Veterinary Services Laboratory (NVSL), USDA Animal and Plant Health Inspection Service, Veterinary Services in Ames, Iowa, for official confirmation.

Upon receiving word of the presumptive screwworm diagnosis, the Department, in conjunction with USDA, activated its emergency response to the threat by issuing a press release alerting all veterinarians and animal owners in and around the Palm Beach area to a possible screwworm infestation. The Department also dispatched an incident command team to Palm Beach County for onsite response. With the assistance of other agencies operating under the Florida Comprehensive Emergency Management Plan (CEMP), ESF-17 established an operation center at the Palm Beach Fairgrounds, and coordinated resources and technical services through the state Emergency Operation Center in Tallahassee.

However, NVSL determined that the larval samples submitted from Palm Beach County were not screwworm, but green bottle fly, a pest commonly found throughout North America that poses no significant threat to humans or animals. Although the incident proved to be a false alarm, the action taken based on the presumptive diagnosis of screwworm larvae was appropriate to protect the human population, livestock, wildlife and pets. This was also the first foreign animal disease threat to

be managed through the Florida CEMP and the state Emergency Operation Center (EOC), providing a good test of these emergency systems' ability to respond.

The United States has been free of self-sustaining screwworm populations since 1966. It is estimated that the United States livestock industry could suffer \$750 million in annual production losses if this pest were reintroduced to the United States.

CSF, FMD and BSE

Outbreaks of classical swine fever (CSF), bovine spongiform encephalopathy (BSE, or "mad cow" disease), and foot-and-mouth disease (FMD) in Europe, and particularly in the United Kingdom during late 2000 and early 2001, heightened awareness and concern in the United States that some of these foreign animal diseases might enter the nation's seaports and airports and threaten this country's livestock populations.

ESF-17 and the Department mobilized under the leadership of the State Veterinarian, placing interdiction teams at seaports and airports where they inspected garbage from incoming aircraft and ships, military equipment, shipping containers, incoming passengers' clothing and footwear, and any other apparent avenues through which FMD, BSE or other dangerous diseases could enter. Department staff also engaged in research, briefed the news media, and performed public relations duties such as creating educational brochures, training videos, and mailouts.

Education and Outreach

The Division of Animal Industry continues to emphasize public information, awareness and education through news releases, brochures, and its website at <http://doacs.state.fl.us/ai/aiindex.htm>, where a number of forms are available, including:

- Application for Registration as Livestock Dealer
- Application for Permit to Feed Garbage to Swine
- Owner's Agreement for Quarantine for Contagious Equine Metritis (CEM)
- Application for Brand Record, Application for Livestock Haulers' Permit
- Request for Brucellosis (Re)Certification
- Application for Permit to Transport Animal Carcasses/Refuse
- Official Certificate of Veterinary Inspection order form
- Disease Reporting Form
- Disaster Animal Response Team (DART) Training Request Form

ANIMAL DISEASE CONTROL

The Department is responsible for administering the state's animal disease control and eradication programs, and in cooperation with USDA the Department has developed new programs that address public health issues and their economic impacts.

The recent outbreaks of foot-and-mouth disease (FMD) outside the United States, and West Nile virus (WNV) in the United States, emphasize the necessity of having a strong, active animal disease monitoring program in place with open lines of communication to public officials. Rather than perceiving disease control and eradication programs as bureaucratic obstacles, the public is demanding that more be done to protect the nation's animal-origin food supply. These needs—as perceived

Supporting Florida Agriculture

by the producer, the consumer, and the associated animal industries—will influence the overall acceptability and effectiveness of future disease control and eradication programs.

Animal Movement

The monitoring of the movement of livestock into Florida by Official Certificate of Veterinary Inspection is the Department's first line of defense against the transmission or inadvertent importation of animal diseases. When diseases threaten livestock in other parts of the country, the Department may enact additional requirements for animals being imported into Florida, often requiring prior notification, permission and permitting from the Department before shipments are allowed in through the agricultural inspection stations.

Health Certificates

This fiscal year the Department processed 40,132 certificates representing more than 600,000 animals moving into or out of Florida. Beef and dairy cattle were the most common, along with horses, swine, goats, sheep, ratites, Cervidae and exotics. All livestock transported into Florida is subject to certificate verification by Agricultural Law Enforcement officers.

Livestock Haulers Permits

The Department issued 2,074 livestock haulers permits during 2000-2001.

Marks and Brands Program

The Department issued 229 new brand certificates and renewed 948 last year. The total number of brands registered in Florida is 5,596.

Poultry

The Department's Poultry Disease Control Unit conducts inspections of various poultry facilities in Florida and tests flocks in accordance with USDA's National Poultry Improvement Plan (NPIP). In Florida, this involves approximately 27 hatcheries, 19 dealers, and more than 150 independent flocks. In conjunction with this program, there were 4,971 samples submitted for pullorum-typhoid (PT).

Department inspectors continue to inspect and test for PT on poultry coming into Florida Fairs for exhibition. During 2000-2001, the Department inspected 7,708 birds at 50 fairs. Inspectors tested 3,709 of the birds exhibited at the fairs for PT.

The Department administers a monthly monitoring and testing program for *Salmonella enteritidis* (SE) at commercial egg breeding flocks. During fiscal year 2000-2001, 12 environmental samples were taken, and 300 tests were submitted for SE and for PT.

In the Miami-Dade County area, the Department administers a surveillance program for avian influenza (AI). During 2000-2001, 35 flocks were tested for AI, with 420 samples submitted to the Department's Diagnostic Laboratories.

Poultry activities included the testing and monitoring of commercial broiler breeding flocks for *Mycoplasma gallisepticum* (MG) and *Mycoplasma synoviae* (MS). During 2000-2001, the Department tested 85 flocks and submitted 8,255 samples for MG and for MS.

The Department also conducts quarterly hatchery inspections at commercial egg, meat, and turkey companies. During fiscal year 2000-2001, the Department conducted 40 inspections and submitted 1,296 agar plate test samples. In addition, the Department conducts routine inspections of

dead bird disposal methods at commercial poultry farms. There were 719 commercial poultry farms inspected during 2000-2001.

The Poultry Best Management Practices Quality Assurance Program was implemented during 2000-2001, with 71 farms enrolled in the program and inspected by the Department. In addition, the Department issues permits for the import/export of poultry in Florida; 1,469 permits were issued this year for movement of poultry and poultry products.

Cattle

Brucellosis

In June 2001, USDA again awarded Florida with brucellosis-free status. There were 284,207 cattle tested for brucellosis in Florida during the fiscal year; none were infected. During the same period, 95,585 cattle were vaccinated; 14,531 replacement dairy heifers came into Florida under permit and were subsequently adult vaccinated for brucellosis.

Tuberculosis

Last year the Department conducted 3,903 tests for tuberculosis; no cattle were infected. Florida did have two deer reactors.

Johne's Disease (Paratuberculosis)

In 2000, the Florida Johne's Advisory Committee completed development of a voluntary program for Florida producers. Patterned after the U.S. Voluntary Herd Status Program, Florida's program allows for producers to be assigned a status level based upon certain minimum test requirements. The committee also developed an educational program and Best Management Practices to prevent or eliminate Johne's disease from a herd.

Beef and dairy producers submitted 33,199 samples to the Department's Diagnostic Laboratory at Live Oak. Information regarding levels of infection and management suggestions is reported back to producers and participating veterinary practitioners. Plans for the state's Johne's program include expansion to sheep, goat and cervid herds.

Heartwater

Heartwater disease is an acute, infectious disease of ruminants (including cattle, sheep, goats, and deer) caused by a rickettsial bacterium, *Cowdria ruminantium*. The disease is transmitted by ticks of the genus *Amblyomma*, but it is not contagious from one animal to another animal. Heartwater is currently found in sub-Saharan Africa and the eastern Caribbean. It is estimated that if heartwater were introduced and became established in the United States, it could kill 40 to 100 percent of infected cattle, sheep, goats and deer. There is no effective treatment for heartwater, and no practical vaccine is available. Prevention of the disease relies on control of its tick vectors.

Florida and the United States are considered heartwater free. If they were to lose that status, Florida livestock producers would experience immediate restrictions in movement of their animals out of the state.

In an incident last year, the Department issued permits for 71 head of cattle to be transported from St. Croix, Virgin Islands, to Florida, and on August 23, 2000, the cattle arrived at a private ranch in



Supporting Florida Agriculture

Okeechobee under specific babesia (tick fever) import quarantine requirements and FDACS inspection. The cattle had met all the pre-import testing requirements, which included tests for babesia. Heartwater tests were not required for the cattle's importation because Florida accepts the USDA disease reporting, monitoring and surveillance system, and the *Amblyomma variegatum* tick, although a proven vector to transmit heartwater disease, had been reported eradicated from St. Croix in 1994.

On August 28, 2000, USDA advised the FDACS State Veterinarian that ticks had been collected from a bull in St. Croix and identified by the USDA National Veterinary Services Laboratory (NVSL) as *Amblyomma variegatum*. USDA initiated examination of other St. Croix cattle for ticks.

In October 2000, based on the *Amblyomma* tick findings reported by USDA, the FDACS State Veterinarian ordered tests for heartwater to be conducted at the same time the first post-import test was being conducted for babesia. Two animals tested positive for babesia, and 54 animals tested positive for heartwater although no animals displayed symptoms of heartwater. USDA and FDACS promptly implemented procedures to prevent any possible exposure to other animals.

In January 2001, FDACS obtained information that cattle from the ranch in St. Croix were tested in 1999 by USDA, revealing positive results for heartwater. The FDACS State Veterinarian and USDA agreed to conduct additional tests for heartwater on the cattle from St. Croix quarantined in Okeechobee. Based on scientific tests conducted on the quarantined animals revealing positive results for heartwater, a protocol for addressing the risk associated with the St. Croix cattle had to be enacted.

FDACS and the livestock industries of Florida pressed for the return of the cattle to St. Croix, but that option eventually proved unfeasible. FDACS worked closely with USDA and the cattle's owner to resolve the issues. During the process, the cattle remained under state quarantine. Four cattle were sent to the National Veterinary Services Laboratory (NVSL) in Ames, Iowa, and the rest were depopulated. Samples from the destroyed cattle were submitted to NVSL for further testing.

Equine

Equine Infectious Anemia

Equine infectious anemia (EIA), also known as "swamp fever," is an incurable blood-borne disease that affects only members of the equine species. It is transmitted primarily by large biting flies but may also be transmitted by the use of contaminated needles and surgical instruments or through breeding. Once an animal is infected, it remains infected for the rest of its life. While some horses die from acute infections, most appear symptomless. However, infected animals are capable of transmitting EIA and pose a threat to healthy animals. There are currently no vaccines and/or effective treatments for this disease.



EIA is a disease of worldwide significance. In some foreign countries, the disease incidence may be greater than 50 percent. In the United States, it occurs in most every state; however, 90 percent of the cases occur in what is known as the "hot zone," those states bordering the South Atlantic Coast, the Gulf of Mexico, and the Mississippi River Basin, including Oklahoma and Texas. Disease risk in these areas is higher because environmen-

tal conditions are favorable for prolonged insect vector seasons.

Florida's equine industry continues to be a vital economy to the state, and the Department plays an important role in safeguarding this resource from the potential effects of this disease. With support and cooperation from the state's equine industries, Florida was one of the first states to implement an EIA disease control program.

Last year, more than 1.7 million horses were tested nationally. Of this number, 813 EIA positive horses were disclosed. In Florida 130,945 horses were tested, with only 13 testing EIA positive. While on a national level only 10 to 15 percent of the horse population is tested, Florida tests more than 30 percent of its equine population. In spite of being in the EIA hot zone, Florida's EIA control program continues to keep the disease incidence at 0.01 percent, which is significantly lower than the national average of 0.046 percent. This can be attributed to the Department's effective EIA control program, strict enforcement of the EIA regulations, and strong support from the state's valuable equine industry.

Equine Piroplasmosis

Florida is the only state that monitors the status of horses imported from Puerto Rico and the U.S. Virgin Islands, where equine piroplasmosis (EP) is endemic. Florida requires all horses entering the state from Puerto Rico and the U.S. Virgin Islands to test negative for EP upon arrival in Florida. Last year, the Department issued 65 permits covering 93 horses.

Rabies

Rabies is a deadly viral infection of the central nervous system. The virus is found in the saliva of infected animals and is usually transmitted by bites from these animals. All warm-blooded mammals can get rabies, and some may serve as natural reservoirs of the virus. Wild animals account for the overwhelming majority of reported rabies cases. Among Florida wildlife, the animals most frequently diagnosed with the disease are raccoons, bats and foxes. Because horses are generally kept in areas where they may come in contact with wildlife, the danger of rabies is always present in Florida. In fiscal year 2000-2001, one case of equine rabies was reported, which is about the annual average for the past 20 years.

Arboviruses

Arboviruses are maintained in nature through a cycle involving susceptible mosquitoes and birds, the natural reservoir for these diseases. People and domestic animals that contract these diseases can develop clinical illness, including encephalomyelitis, but are generally considered "dead-end" hosts in that they do not contribute to the natural transmission cycle (i.e., bird-mosquito-bird cycle).

The Department, in conjunction with the Florida Department of Health (DOH) and the Florida Fish and Wildlife Conservation Commission (FWC), has in place a surveillance program to monitor for arboviruses in Florida. This program involves testing mosquito pools, sentinel chickens, sentinel horses, and dead wild fowl for signs of these viruses. These and other members of Florida's West Nile virus (WNV) Working Group established a plan during fiscal year 1999-2000 in anticipation of the inevitable arrival of WNV in Florida.

In March 2001, FDACS, DOH and FWC issued a collaborative press release urging Floridians to protect against mosquitoes and mosquito-borne viruses. The press release specifically requested Floridians to report dead wild birds, either by logging onto the FWC web site or by contacting their local FWC office or county health department. Samples of dead birds were submitted to the FDACS

Supporting Florida Agriculture

Kissimmee Diagnostic Laboratory and to the DOH laboratory in Tampa, providing for the earliest possible detection of West Nile virus.

Eastern Equine Encephalomyelitis

Eastern equine encephalomyelitis (EEE) is a viral disease that attacks the central nervous system of horses. It is spread by mosquitoes, which transmit the disease from infected birds. Transmission of the disease from horse to horse or from horse to humans is highly unlikely.

In horses, EEE can cause fever, impaired vision, irregular gait, reduced reflexes, inability to swallow, convulsions, and even death. The disease is most commonly detected in horses in Florida from April to August. The mortality rate for infected horses is 50 to 90 percent. Vaccinating horses properly will prevent them from contracting the disease.

During the early part of the 2001 mosquito season, the Department revised its recommendations regarding EEE vaccination in horses due to the number of horses showing clinical signs of EEE despite being vaccinated twice yearly according to previous recommendations. Current recommendations are that previously unvaccinated horses should be given two initial injections of vaccine about three to four weeks apart. After initial vaccination, all horses should be vaccinated three times a year.

During 1998 and 1999, Florida experienced 46 equine cases of EEE each year, but only 20 cases occurred during the 2000 calendar year, this smaller number attributable to drought conditions. However, during April and May of 2001, tropical weather systems brought heavy rains, especially in North Florida, creating a large mosquito population. During a two-week period in June 2001, 24 suspected or confirmed cases of EEE occurred in a three-county area of the western Panhandle.

Although EEE can be detected in mosquitoes, sentinel chickens, and humans, FDACS surveillance in horses often yields the earliest warning that an arbovirus is present in the environment. Rapid communication between FDACS and Department of Health (DOH) ensures that health alerts can be issued promptly. Upon notification that nine equine cases occurred within the first week of the outbreak, DOH issued a human health alert for the three Panhandle counties heavily affected by EEE.

West Nile Virus

West Nile virus (WNV) has been commonly found in humans and birds and other vertebrates in Africa, Eastern Europe, West Asia, and the Middle East, but until 1999 had not previously been documented in the Western Hemisphere. WNV was identified in a limited area of the northeastern United States in wild birds, mosquitoes, humans and horses during a period from early August through late October 1999. During 1999, 25 equine cases were confirmed, all in New York.

The 1999-2000 winter in the northeastern United States failed to kill the mosquito vectors of the virus, and during 2000 WNV continued its progress down the Eastern Seaboard. In calendar year 2000, the United States experienced 60 clinical equine cases of WNV confirmed by USDA-APHIS. Seven states had equine cases in 2000, with onset of illness in horses occurring from mid-August through the end of October. By the end of 2000, 12 states and the District of Columbia had confirmed findings of WNV in a mosquito, bird or mammal. The southernmost equine case of WNV in 2000 occurred in Delaware. The earliest case that year of WNV in a horse occurred in August 2000.

The 2001 WNV season in the United States began in April and May with cases confirmed in birds in the northeastern U.S. In the United States through July 2001, WNV was documented in Connecticut, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island,

Florida, Georgia, Virginia, Ohio, and the District of Columbia. However, no cases were confirmed in Florida through June 30, 2001.

Swine

Swine Brucellosis

The Department continues the testing of slaughter swine for brucellosis at livestock markets as part of the National Swine Brucellosis Eradication Program as this disease has become a significant public health problem for those working in swine slaughtering plants. This past year 5,400 swine were tested for brucellosis.

Pseudorabies (Aujeszky's Disease)

During the year, the Department continued to make progress toward eradication of pseudorabies. USDA allocated funds for depopulation of infected herds. Florida is currently in stage III status. Of the 5,816 swine in Florida that were tested for pseudorabies 0.33 percent were found to be infected.

Garbage Feeders

During fiscal year 2000-2001, the Department licensed 156 garbage feeders and conducted 3,376 garbage feeder inspections. There were 10,944 garbage-fed swine in Florida last year.

EMERGING ANIMAL DISEASE ASSESSMENT UNIT (EADAU)

The Department, through its Emerging Animal Disease Assessment Unit (EADAU), continues to work with the Florida animal industries and state, federal and local governments initiating and assisting with cooperative programs such as foot-and-mouth disease (FMD) intervention, West Nile virus (WNV) epidemiology, and feral/wild swine seroprevalence investigations and studies.

To assist USDA-APHIS-PPQ, FMD intervention strategies were begun at the air and maritime ports in Florida, which receive travelers, crew, materials and equipment from countries with FMD.

Feral Swine

Using infrared thermography, the EADAU studied the effectiveness and speed of aerial infrared for locating feral/wild swine in their natural environment, a technique that could prove invaluable during disease outbreaks of major importance, such as foreign animal diseases. Working with the USDA and researchers at Louisiana State University, Virginia Polytechnic Institute, and the University of Florida, the EADAU has assisted the development of new, multiple-disease, oral vaccines for use in combating specific diseases in wildlife and especially feral/wild swine. EADAU personnel have been critically involved with the Florida Swine Brucellosis and Pseudorabies Program, working extensively with industry and the USDA to achieve a practical program with the existing available funds.

Avon Park Air Force Range was another location where the EADAU, along with the USDA, furnished personnel and assistance during fiscal year 2000-2001. The EADAU also began a study involving the oral brucellosis vaccination of feral/wild swine around a large South Florida dairy. This dairy regularly has cattle that become infected with swine brucellosis from close contact with

Supporting Florida Agriculture

infected feral/wild swine. The study is designed to prevent or reduce the incidence of this disease in the cattle and swine and measure the success.

Cervidae (Deer and Elk)

Florida's captive cervid industry continues to grow. While this industry is licensed primarily by the Florida Fish and Wildlife Conservation Commission (FWC), the Department is a partner involving disease-control issues and importation policies. The EADAU also works with owners of captive cervid herds on disease management programs.

The USDA has begun to incorporate captive cervid herds into each state's disease status for bovine brucellosis and tuberculosis. The EADAU works with owners and managers of captive cervid herds to develop and maintain management strategies and plans to ensure better monitoring of diseases while fostering industry cooperation with cervid movement regulations. Because diseases that affect deer and elk often also impact cattle, sheep, goats and other livestock populations, current and future disease eradication programs should encompass all affected species, both wild and domestic.

The Department continues to monitor certain diseases affecting cervidae in other regions of the United States, specifically: 1) Michigan's ongoing battle with tuberculosis in their cervid and bovine populations, and 2) chronic wasting disease (CWD) in deer and elk in western states.

Reptiles and Amphibians

The Department began a working relationship with the large and growing reptile industry in Florida and the United States in 1999 to address concerns about exotic ticks entering the state on reptile imports from foreign countries — particularly concerns of Florida cattlemen about *Amblyomma* ticks, which are proven carriers of heartwater disease.

During the 2000-2001 fiscal year, the Department collaborated with the Florida reptile industry to draft a comprehensive set of Best Management Practices. The reptile industry continued their efforts to create a voluntary certification program called the National Reptile Improvement Plan (NRIP), which is modeled after the National Poultry Improvement Plan (NPIP).

In March 2000, the USDA banned the importation of three species of African tortoises known to carry *Amblyomma* ticks. To address this ban and other issues, the USDA, with assistance from the Department, sponsored a symposium on July 11-12, 2000, in Tallahassee, which was attended by more than 90 people representing the governments of Florida and other states, federal agencies, universities, trade and professional organizations, traditional livestock industries, and various segments of the reptile industry.

Performing Elephants

Florida is the winter home for many circus road shows and the retirement home of an aging elephant population. Elephants are susceptible to a number of zoonoses, and they often have contact with humans, providing opportunities for transmission of diseases such as tuberculosis. The Department monitors elephant facilities in Florida to ensure that they perform regular disease testing as well as making certain that these facilities have management practices in place that would prevent the spread of disease among elephants, humans, and other animals.

Diagnostic Labs

Florida's diverse animal industry is seriously concerned with animal diseases for several reasons: 1) the state's extensive coastline, 2) its climate favorable to the proliferation of many disease vectors, 3) an increasing number of imported exotic species, 4) an expanding tourist trade, and 5) a proximity to the Caribbean and other points south. Florida would represent a potential hazard to the rest of the nation if it did not employ a diligent system of animal disease diagnosis. With that responsibility in mind, the Department's full-service, state-supported laboratories are staffed with veterinarians, pathologists and technicians who are highly trained in a range of specialized diagnostic disciplines, including bacteriology, molecular biology, parasitology, pathology, toxicology, virology and diagnostic evaluations.

Thirty-seven diseases are considered potentially harmful to Florida's animal industry or to the general public and are listed as reportable to the Department. In addition to the monitoring and surveillance of animal diseases, the laboratories also provide thousands of tests each year for other diseases of public health significance, such as Lyme disease, Rocky Mountain spotted fever, chlamydia (psittacosis), toxoplasmosis, giardiasis, and salmonellosis. Many diseases of animals also infect humans. The majority of emerging human diseases are zoonotic or allow affecting humans. Diagnostic Laboratories also compile the Department's monthly disease report to USDA, which collects and coordinates information for all 50 states.

The Diagnostic Laboratories at Kissimmee and Live Oak comprise a laboratory system certified by the American Association of Veterinary Laboratory Diagnosticians (AAVLD). AAVLD certification is recognized worldwide. The Diagnostic Lab at Kissimmee is one of only seven USDA certified aquaculture labs in the United States

Outreach

The Department continued its courier system to service veterinary clinics in the Kissimmee/St. Cloud and south Orlando areas to provide prompt turnaround time and reliable service.

The Department also has a successful ongoing student externship program in place. Each year, one student is funded by the Florida Cattlemen's Association. Additionally, the laboratories provide externship programs with veterinary students from the University of Florida's College of Veterinary Medicine.

In the late months of 1999, the Department received a request for assistance in the development of a network of diagnostic labs in the Caribbean region. After many months of planning, the Department responded by paying two visits during September 2000 to Guadeloupe, Barbados, Trinidad-Tobago, Dominican Republic, and Jamaica. In November 2000, the findings and recommendations of these two visits were presented at a workshop in Guadeloupe which was attended by chief veterinary officers from the Caribbean region.

Funding/Fees

The Bureau of Diagnostic Laboratories received \$607,595 in Operating Capital Outlay funds for replacement equipment in the laboratories. Use of those funds is ongoing, and replacement equipment purchased during fiscal year 2000-2001 included an atomic absorption spectrometer and a gas chromatograph/mass spectrophotometer for the Toxicology Section; a blood analyzer for the Clinical Pathology Section; an imaging system for the electron microscope in the Virology Section; and a tissue tek histochemistry system in the Pathology Section. Fees generated per procedure in fiscal year 2000-2001 exceeded the previous year by 5 percent.

Supporting Florida Agriculture

Kissimmee

A major facility in Florida's work on animal disease diagnosis and control in fiscal year 2000-2001, the Kissimmee Diagnostic Laboratory is comprised of many specialized sections.

During the outbreak of EEE during 2000-2001, the Polymerase Chain Reaction (PCR) Lab was able to confirm the diagnosis of this disease when conventional diagnostic tests were unable to differentiate between background immunization blood levels and actual disease.

The Parasitology Section is certified by the USDA to perform regulatory testing for the export of catfish, clams and shrimp, and is the only certified laboratory system in Florida for this area of expertise. Specimens are routinely submitted for *Perkinsus*, *Haplosporidium*, and other organisms important in the aquaculture industry.

The Pathology and Necropsy Section was instrumental in setting up the surveillance necropsies of avian specimens submitted during the 2001 arbovirus season for WNV surveillance testing. Until June 2001, one to five birds per day were submitted to the Kissimmee laboratory for routine surveillance. Submissions increased dramatically at the end of June 2001 and into the next fiscal year as Florida registered its first case of WNV, confirmed in a dead crow submitted on June 30, 2001.

Submissions during the 2000-2001 fiscal year to the Virology Section continued in high volume, with more than 72,000 specimens for equine infectious anemia (EIA) received between the Kissimmee Laboratory (where the bulk of samples is performed) and the Live Oak lab.

Live Oak

The Live Oak Diagnostic Laboratory was a staging area for two major disease outbreaks during fiscal year 2000-2001. First was the outbreak of laryngotracheitis (LT) in the poultry flocks predominately in the North Florida area. The second outbreak involved arboviral encephalitides, eastern equine encephalomyelitis (EEE) and West Nile virus (WNV).

Live Oak continues to serve as the focal point for the voluntary Johne's Disease control program in Florida. During fiscal year 2000-2001, the facility performed more than 33,000 tests for Johne's disease, which was 10 percent more than the year before.

State and federal programs to eradicate brucellosis and pseudorabies (including post-eradication surveillance) continue at the Live Oak laboratory, where the staff performed 479,256 tests during the 2000-2001 fiscal year.

FEED, SEED AND FERTILIZER

Through its Division of Agricultural Environmental Services, the Department is responsible for the collection and analysis of seed and fertilizer samples to determine compliance with state standards and label guarantees, and to conduct a certification program for feed laboratories. The Department performs establishment inspections, collects samples for analysis, and issues enforcement actions. It also performs analyses on regulatory samples submitted by inspectors throughout the state. The Department maintains a leadership role in determining compliance of regulated businesses with existing laws and demonstrates adaptability to an ever changing agricultural and consumer environment. The Department is staffed with highly trained, professional personnel and utilizes the most advanced technology available. This combination ensures quality analytical results while maximizing efficiency and productivity. The objectives of these programs have remained the same through the years: to ensure that consumers receive quality products, to provide a level playing field for all

manufacturers, and to promote environmental stewardship. Additional information may be obtained on the Internet at <http://doacs.state.fl.us/~aes-fsflab/>.

Feed

Animal feeds are regulated through the laboratory analysis of samples by government-certified labs. Registrants, including ingredient suppliers, are required to submit samples of their products to Department-certified laboratories for testing. Results from these sample analyses are reported to the Feed Laboratory where compliance with Chapter 580, Florida Statutes, is determined. The Department takes appropriate regulatory action if warranted. Five certified laboratories and 408 feed companies are participating in the program. A total of 1,945 samples were submitted and analyzed, with 105 violations in one or more categories. This represents an overall violation rate of 5.4 percent. Limited inspection, sampling and laboratory evaluation oversight was conducted to verify compliance with the feed program. A feed workshop was also held to provide program information to feed registrants. Five consumer complaints or requests were investigated, and 28 administrative fines were levied totaling \$19,911.

Seed

The seed program is administered to ensure Florida consumers have a source of high-quality, genetically pure seed. Samples of agricultural, vegetable and flower seed are collected and analyzed for purity, germination, and compliance with Chapter 578, Florida Statutes. Commercial seed samples are tested on a fee basis to determine seed quality or accurate labeling information. During the 2000-2001 fiscal year, 2,000 seed dealer licenses were issued, and 4,093 official seed samples were collected. Laboratory personnel analyzed 4,108 official and commercial seed samples, requiring 33,385 determinations. They determined that 16.6 percent of the samples were mislabeled and 2.5 percent were illegal.

The Seed Investigation and Conciliation Council assists farmers and agricultural seed dealers in determining the validity of complaints made by farmers against dealers and recommends cost damages resulting from the alleged failure of the seed to produce as represented by label on the seed package. This council conducted hearings involving six complaints from growers alleging that seed was defective when purchased, resulting in estimated losses of more than \$24,914.

Fertilizer

The state's fertilizer program is considered to be one of the most innovative programs in the nation. Official samples of commercial fertilizer and agricultural liming materials are collected and analyzed to ensure that they meet the standards set forth in Chapter 576, Florida Statutes. This program provides a model for new fertilizer analytical methodologies. The laboratory has developed and implemented new methodologies to accommodate evolving needs in the areas of nutrient availability in controlled-release fertilizers and micro-nutrient solubility.

Emerging issues such as heavy metals in fertilizers and nutrient Best Management Practices are also administered under this program. The Fertilizer Material Assessment Advisory Group scientifically evaluates all new fertilizer materials before they are allowed into the Florida marketplace. Three new materials were reviewed by this group during this fiscal year. The laboratory also analyzes commercial samples on a fee basis to determine compliance with label guarantees.

Supporting Florida Agriculture

There were 7,735 fertilizer samples analyzed during this fiscal year, of which 1,610 were found to be deficient in one or more plant nutrients. The laboratory performed 160,542 determinations on these samples. The overall deficiency rate was 20.8 percent. As a result of excessive deficiencies, 23 licensees were placed on probation, and penalties and fines totaling \$422,329 were levied, with \$234,377 of that total returned to consumers. There were 497 licenses issued for the sale of fertilizer in Florida. Additionally, 1,422 brands and grades of specialty fertilizers were approved for distribution. Manufacturers reported sales of nearly 2.5 million tons of mixed fertilizer and fertilizer materials in the state.

AGRICULTURAL LAW ENFORCEMENT

Interdiction Stations

The Office of Agricultural Law Enforcement's interdiction stations are Florida's first line of defense in the protection of its agriculture. The bureau operates 22 agricultural inspection stations located on all the paved highways crossing the natural boundary of the Suwannee and St. Mary's rivers. Agricultural vehicle inspections are conducted at each location around the clock, 365 days a year, by 174 law enforcement personnel and a support staff of 11 individuals.

These officers support and supplement all of the Department's regulatory and law enforcement programs by conducting inspections of highway shipments of agricultural, horticultural, aquacultural and livestock commodities. These regulations and programs ensure compliance with Federal-State Marketing Agreements as well as laws, rules and regulations enacted to make certain the

public receives quality food products. Programs are also designed to prevent, control and eradicate specific plant and animal pests and diseases that could economically devastate segments of Florida's \$54 billion agricultural industry.

The Department also cooperates with federal, state and local governmental agencies on projects, both criminal and non-criminal, which either improve the efficiency of agricultural programs or generate additional revenues to the state without increasing costs to Florida's citizens. During times of natural disasters, these Department officers, as members of Florida's Emergency Response Team, participate in relief efforts

to ensure that devastated areas receive adequate law enforcement protection.

During fiscal year 2000-2001, Department officers conducted 10,235,513 vehicle inspections that detected 3,218 violations. The results were 519 arrests, 259 warnings, and 2,440 administrative actions. Additionally, officers expended 898 staff-hours on state forest patrol, consumer fraud investigations, aquaculture protection, and State Fair protection, as well as 26,942 staff-hours in relief of emergency situations created by citrus canker eradication.

Department officers also collected and provided the Florida Department of Revenue with 21,178 bills of lading pertaining to certain types of cargo entering Florida. These efforts resulted in an additional \$10,301,713.76 in sales and use taxes being collected by the state during fiscal year 2000-2001 that would have otherwise gone uncollected. This cooperative effort not only greatly enhances the state's ability to collect sales and use taxes, but it also helps prevent out-of-state



contractors and businesses from gaining an unfair competitive advantage over Florida entrepreneurs. Since the inception of the program in April 1993, this cooperative effort has resulted in the detection and collection of more than \$83 million in taxes.

In addition to the above-mentioned duties, law enforcement officers supported the Citrus Canker Eradication Program (CCEP). This Department program, in cooperation with the USDA, has been responsible for surveying and mapping more than 1 million properties while destroying citrus trees identified as being infected with or exposed to the citrus canker bacteria.

Department officers provide law enforcement support for hundreds of Department employees. They patrolled more than 349,000 miles throughout the southern citrus belt, making more than 29,000 contacts and issuing over 500 written violations. The Department also supervises more than 50 contract law enforcement officers from Palm Beach, Dade and Broward counties to support this massive effort in protection of Florida's citrus industry and future. Department and contract officers have successfully resolved hundreds of consumer-related matters regarding the removal of infected and exposed trees.

Investigative Services

The Department works closely with the agriculture industry, investigating criminal cases that involve timber, citrus, wildfire arson, livestock, equipment theft, and aquaculture crimes. By working with the citrus industry, the Cattlemen's Association, and other entities, the Bureau of Investigative Services takes a proactive role, using education and training to assist in the statewide efforts to reduce the number of agricultural crimes. It also coordinates with the USDA in the Florida Interdiction Smuggling Team (FIST). This team inspects maritime freight and cargo passing through Florida shipping ports and airports as well as the international mail center at Miami International Airport.

This year, the Bureau of Investigative Services took part in an unprecedented law enforcement operation to take back the Miami River from drug trafficking organizations and reclaim it for the community. The bureau partnered with the U.S. Customs Service and the USDA to inspect 22 port facilities and 87 vessels, resulting in the interdiction of contraband narcotics and illegally imported plants and animals.

In fiscal year 2000-2001, the Department opened 1,325 criminal investigations in the following categories:

Fire	956
Agricultural Equipment	15
Livestock	44
Timber Theft	48
State Lands	159
Consumer Crimes	27
Citrus Theft /Fraud	16
Farm Products	3
Pest Control	1
Miscellaneous	71
TOTAL	1,325

Supporting Florida Agriculture

In addition to traditional agricultural investigations, the Department receives hundreds of complaints regarding fraudulent activity in telemarketing, solicitations of charitable contributions, motor vehicle repair, business opportunities, health studios, and sellers of travel. As millions of dollars are fraudulently taken from Florida citizens, more and more Department resources are being channeled into the investigation of these types of crimes.

Florida has more than 17,000 registered automobile repair shops. The Department continually monitors complaints on repair shops, initiates criminal investigations, and conducts sting operations on suspected fraudulent repair practices. This has resulted in a number of arrests for criminal violations and the closing of repair shops that were found to be defrauding the consumer.

The Department launched a statewide investigation into the use of automobile after-market crash parts. During the course of this investigation, several body shops were identified as committing fraud on consumers and insurance companies. In some cases it was discovered that body shops were using substandard replacement parts, including such flagrant violations as not replacing airbags, thus exposing consumers to danger. As a result of this initiative, the use of after-market parts will be scrutinized much more closely, and a better certification process will be implemented. The Department will continue to partner with other law enforcement agencies, the automotive industry, and insurance companies to address this problem through active enforcement and more effective legislation.

The Department participated in a federal/state investigation of telemarketing rooms in South Florida, closing a number of illegal currency exchange operations that were responsible for scamming millions of dollars from citizens. Several arrests were made as a result of the investigation conducted by the South Florida Federal/State Telemarketing Task Force. The Department has maintained a prominent role in that task force since July 1997 while also participating in a number of other task forces and associations that investigate consumer fraud.

Department Law enforcement officers also expended 4,256 staff-hours patrolling more than 830,000 acres of state lands and forests, providing police protection, and investigating crimes such as wild fire arson, vandalism, violent disturbances, and missing persons. The presence of these officers also acts as a deterrent to violations on state lands.

The Bureau of Investigative Services provides support to the Department's regulatory and enforcement programs such as the Citrus Canker Eradication Program, in which law enforcement officers expended more than 9,596 hours of investigative support and aggressive patrol operations in the quarantine and other infected areas. The bureau also cooperates and works with federal, state and local governmental agencies in a number of criminal and regulatory projects as well as providing emergency protection and routine security for the Commissioner, the Commissioner's staff, and visiting international, national and state dignitaries. In addition, the bureau also provides risk management to all Department facilities and their employees.

PLANT PROTECTION, INSPECTION AND CERTIFICATION

Citrus Canker Eradication Program (as of October 5, 2001)

Florida is currently fighting Asian strain (A-strain) bacterial citrus canker in nine counties: Dade, Broward, Palm Beach, Manatee, Hillsborough, Collier, Hendry, Martin and DeSoto. In all areas where canker is present, on-site plant pathologists confirm positively that diseased trees are infected.

The movement of citrus plant material from quarantine areas is prohibited, though citrus fruit may move under certain conditions when certified by the Department. All positive trees are destroyed. Ongoing legal action prevents the Department from cutting exposed trees within 1,900 feet of infected ones unless homeowners give permission.

In January 2000, the Citrus Canker Eradication Program began the removal of trees within the 1,900-foot exposure zone, which captures 100 percent of the disease 95 percent of the time, and is based on a two-year epidemiological study in Dade and Broward counties. On February 11, 2000, the governor declared a state of emergency for canker-infected counties and allocated additional funding for eradication; funds have also been allocated for an ongoing statewide citrus canker survey. Mandatory statewide decontamination procedures began April 1, 2000.

Total trees destroyed to date statewide:

Residential	589,857
+ Grove	1,370,314
TOTAL	1,960,171

Dade and Broward Counties

Quarantine area: approximately 1,000 square miles.

Citrus canker was detected in the Westchester/Sweetwater areas of Dade County in October 1995. It has now spread into 380 sections in Dade County and 247 in Broward County. Since October 1995, control action has been taken on approximately 228,074 properties. A total of 603,564 infected and exposed trees in 633 sections and six government lots in Dade/Broward/Palm Beach counties have been removed to date.

On January 5, 2000, canker was found in commercial lime groves in Florida City; to date, 345,916 grove trees on 2,630 acres have been uprooted and burned.

Palm Beach County

No quarantine area.

Citrus canker has been detected on 60 residential properties across 12 sections since the first find in November 1999. CCEP and independent research scientists have determined that a third genotype of A-strain canker is responsible for infecting only key lime and other closely related varieties. A-strain canker has been confirmed on only 12 properties. A survey is ongoing, and 4,176 trees have been destroyed to date.

Manatee County

Quarantine areas: Palmetto, 95 square miles; Duette, 41 square miles.

Citrus canker was detected in May 1997 in two groves off Interstate 75 near Palmetto. A total of 850 acres have been found positive for canker: 738 commercial and 112 abandoned acres. To date, 95,708 grove trees on 1,293 infected acres and 3,088 dooryard trees have been destroyed.

Supporting Florida Agriculture

In July 1999, 38 positive trees were found about four miles west of Duette and burned in place; seven exposed acres were also destroyed. Additional positive and exposed trees were detected and destroyed in September and December 1999 and in February 2000.

Hillsborough County

Quarantine area: 20 square miles.

Citrus canker was detected in November 1999 in the Sun City Center area of southern Hillsborough County. Survey revealed 56 positive and 46 exposed trees on 27 properties across four square miles. Control action on positive and exposed trees is complete: 2,150 dooryard trees have been destroyed on 947 residential properties. In December 1999, 8,500 grove trees on 102 high-risk abandoned acres near the county line were destroyed; 1,766 additional grove trees were destroyed in August 2000, totaling 10,266 trees on 117 acres.

Collier County

Quarantine areas: Sunniland, 113 square miles; Golden Gate City, 9.5 square miles.

In June 1998, citrus canker was detected in the Indian Lake Grove, 12 miles southeast of Immokalee. Since then, 1,274 acres have been destroyed. To date, 15 residences in Golden Gate City have infected trees: 29 positive and 1,782 exposed trees have been destroyed onsite since the first find in April 2000; 1,900-foot control action is complete. Also, three residences at Golden Gate Estates have had 10 positive and 45 exposed trees destroyed. In October 2000, 10 positive trees and three potted trees were destroyed in a grove just north of previously positive Sunniland grove; 142-acre control action is complete. In January 2001, 32 positive trees were found in Ranch One; also, two positive grapefruit were detected in the Collier Company grove. On both sites 1,900-foot control action is complete.

Hendry County

Quarantine areas: Siboney, 95 square miles; Big Cypress Seminole, 18 square miles; Montura Ranch, 16 square miles; Star-Glo, 30 square miles (portions in north Collier Co.).

In February 1999, canker was found in the Siboney Grove; the entire 622-acre grove has been destroyed. Since then, approximately 930 acres have been pushed on five additional infected groves on the east and south outer fringe of the southwest Florida citrus area. To date, seven residences at Montura Ranch Estates have had infected trees: 39 positive and 882 exposed trees have been destroyed. In late July/August 2000, 132 positive trees were burned in place in a grove just west of the Star-Glo quarantine area, and 275 surrounding acres have been destroyed. In October 2000, 33 positive trees were detected in a previously positive grove within the Star-Glo quarantine area; 594 acres have been destroyed. In December 2000, 2,576 positive trees were confirmed in the County Line Grove just east of the Siboney quarantine area; control action is complete. Also in December, two positive dooryard trees and 20 exposed trees at one residence at Siboney Estates were destroyed. On August 31, 2001, canker was found in a grove just south of the Siboney quarantine area; two infected trees and 18 exposed trees were burned in place. The Immokalee CCEP Office combined total for Collier and Hendry counties is 921,931 grove trees removed on approximately 5,426 commercial acres (including 360 abandoned acres) with 2,809 residential trees cut to date.

Martin County

Quarantine area: 12 square miles.

On September 27, 2001, Asian strain citrus canker was detected in a commercial citrus grove in south Martin County. The grove is approximately 1.5 miles north of the Palm Beach County line. Multiple infected flame grapefruit trees in an 8.1-acre block close to Interstate 95 were infected. On September 28, positive and uninfected adjacent trees were removed with the cooperation of the property owner. It is believed that the infection was spread by contaminated harvesting or maintenance equipment.

Delimiting surveys completed on October 4 detected four additional pineapple orange trees within 500 feet to the north of the infected block. Approximately 126 acres of surrounding grove will also be removed. The remaining trees in the grove were immediately placed on a 30-day inspection cycle. This infection was detected during an ongoing survey of this area; this survey cycle was the second this year in that area.

DeSoto County

Quarantine area: 33 square miles.

On October 5, 2001, citrus canker was detected in a 200-acre orange grove in DeSoto County, northeast of Arcadia. The grove is located in Sections 26 and 27, Township 37, Range 25. Numerous trees within the grove were infected; many were Valencia, but other varieties were also present. Also, 15 more positive trees were detected during a delimiting survey in a 90-acre block across the road in Sections 34 and 35. It is believed that contaminated equipment or personnel spread the infection. Beginning October 15, approximately 292 grove acres were being destroyed with the owner's cooperation. Delimiting survey of the infected grove was completed October 9, and surveys of associated groves began later that week. The positive property was placed on a 30-day inspection cycle beginning immediately, and the surrounding area on a minimum 60-day cycle. Also, a 100 percent residential survey was begun for a minimum five square miles surrounding the find.

DNA Analysis

Current scientific research indicates that all citrus canker outbreaks in Florida (which have received molecular analysis) are genetically related to the Dade County infestation, except for infestations in 1) Palmetto (Manatee) and parts of Sun City Center (Hillsborough), which are an apparent reoccurrence of the 1986-94 outbreak, and 2) key lime and alemow infected in Lake Worth and Wellington (Palm Beach) which are a third genotype of Asiatic citrus canker. Molecular tests on the new finds in Martin and DeSoto counties were being conducted.

Current information on citrus canker eradication efforts may be found at <http://doacs.state.fl.us/canker/>.

Other Programs

The Citrus Budwood Protection Program

Budwood protection plays a vital part in preventing the establishment of new diseases and the spread of existing diseases in Florida's commercial citrus industry. The threat of new pathogens to Florida's growers is ongoing with increased travel and emigration from abroad. Because of the ease

Supporting Florida Agriculture

of transmitting pathogens by grafting, the Division of Plant Industries regulates the movement of budwood from source trees to nurseries. Citrus tristeza virus is monitored in all budwood source trees. Registered scion grove trees receive additional viroid testing, while parent trees are thoroughly tested for graft-transmissible pathogens. Movement of citrus germplasm into Florida is prohibited without permit. New germplasm introductions into Florida are quarantined and strictly indexed in the Department's facilities in Gainesville.

Nursery propagations have varied very little over the past four years. There were 5.6 million propagations in 2000-2001 compared to 5.8 million in 1999-2000 — enough trees to plant 44,000 acres at the average of 125 trees per acre. Since the budwood program began in 1953, enough registered trees have been budded to replant the entire commercial citrus acreage in the state.

Sweet oranges are the principal citrus type grown in Florida, representing 85 percent of the citrus produced, with 38 percent of the sweet oranges propagated being Valencias. Citrus is grown on approximately 832,000 acres in Florida.

More than 25 different rootstocks were used in Florida citrus nurseries in 2000-2001. Five rootstocks account for 90 percent of registered nursery propagations. Swingle citrumelo continues to be the most-used rootstock.

There are 74 active commercial citrus nurseries in Florida of which seven are strictly own-use. The majority of the citrus nurseries are located in Central Florida with Polk and Highlands counties ranking No. 1 and No. 2 respectively. Commercial citrus nurseries propagated an average of 80,000 trees; own-use nurseries propagated 26,000 trees on average.

Foundation Groves

Budwood foundation trees are maintained by the Division of Plant Industry for horticultural evaluation and budwood and/or seed distribution. The budwood foundation trees at Winter Haven and Dundee are intended to supply small quantities of budwood for the establishment of scion and increase trees at participants' nurseries. The Department cut and distributed nearly 160,000 budeyes from foundation trees this past fiscal year.

The Dundee foundation grove is planted with 349 different commercial citrus clones representing 81 varieties. There are 98 clones of 61 different rootstocks used to evaluate scion/stock combinations.

The Florida Citrus Arboretum

The Florida Citrus Arboretum was established in 1975. It is one of the largest collections of citrus germplasm in the world, with 432 trees representing 256 varieties. Commercial citrus as well as citrus relatives and hybrids are available for researchers, FFA groups, college students and tourists to observe, evaluate and taste; 496 visitors came this year from 11 countries and 10 states. The arboretum supplied more than 20,000 budeyes to nursery owners this fiscal year, and exported 4,588 budeyes out of state.

Immokalee Screenhouse

A screenhouse constructed in 1998 is the future of the budwood supply from the Immokalee foundation grove. The Immokalee foundation grove consists of a screenhouse and a field planting. The field planting of 1,661 trees has 46 varieties using 37 different rootstocks. The screenhouse was expanded last year to 25,344 square feet, and a second screenhouse is planned for next year to double the tree capacity.

Biological Greenhouse Viroid Testing

The Department completed 1,277 biological greenhouse tests to detect viroids this fiscal year.

Citrus Tristeza Virus Tests

The Florida Citrus Arboretum is used as a teaching and research facility, even though small quantities of budwood of uncommon varieties are supplied. Therefore, trees with severe CTV status are not removed. The arboretum trees tested 37.9 percent severe this past testing period.

Shoot-Tip Grafting

Shoot-tip grafting (STG) is used to remove viruses and viroids from infected parent trees. This fiscal year 318 STGs were done, and 37 STGs representing 23 different candidates were transferred from the laboratory to the greenhouse. These will be thoroughly tested before receiving a fruit check and being released; 111 tests were completed on propagated STGs this year.

Plant Inspection and Certification

During fiscal year 2000-2001, 7,135 nurseries and 3,556 stock dealer establishments registered with the Division of Plant Industry. Inspectors made 31,240 inspections of nurseries and stock dealers. There were 16,172 state and federal certificates issued for shipments of plants and plant products exported from Florida; 105,848 plants were quarantined.

Department personnel also inspected shipments of plants and plant products imported into Florida from other states and countries, including 8,379 boxes of cut plant material, 1,054,954 commercial and home-grown plants, and 61,969 boxes of citrus and other fruit. These inspections resulted in regulatory action for 24 plant pests of quarantine significance.

More than 18,156 samples were collected to check specifically for burrowing nematodes per the requirements of the burrowing nematode certification program.

Department personnel tended 407 gypsy moth traps in North Florida, with no reproducing gypsy moth infestations detected. Other seasonal traps included 16 cotton boll weevil traps, no exotic insect traps targeted for false codling moth, Egyptian cotton leafworm and rice cutworm, and 26 European corn borer insect traps.

Department and USDA personnel tended more than 50,080 traps for exotic fruit fly detection in this fiscal year.

Caribbean Fruit Fly-Free Protocol

The Caribbean fruit fly is a serious pest of many tropical and subtropical fruits of Central and South Florida. The Fly-Free Zone Certification Protocol was developed to certify citrus fruit as free of Caribbean fruit fly larvae. Bermuda, Brazil, Colombia, Japan, New Zealand, the Philippines, Thailand, the People's Republic of China, and the states of California, Hawaii and Texas have accepted this certification procedure, which is fully funded by grower assessments. Fruit shipped to these areas must originate in specific Caribbean fruit fly-controlled or designated areas in citrus-producing counties approved for shipment of fruit.

In the 2000-2001 season, 178,500 acres were certified in 22 eligible counties. The Caribfly Protocol establishes a safe and effective procedure for exporting citrus to areas requiring quarantine safeguards. Japan is currently the largest importer of fresh Florida grapefruit; 10,560,115 cartons of grapefruit were shipped to Japan under the protocol certification program this season.

Supporting Florida Agriculture

Boll Weevil Eradication

At the close of the 2000 cotton-growing season, there were 373 commercial cotton growers in the state. These growers planted 98,000 acres of cotton in 14 counties, a decrease of 8,121 acres of planted cotton from the 1999 growing season. This reduction in planted cotton acreage was a direct result of the severe drought conditions that affected all of agriculture throughout the southeastern United States. During the months of August and September, 14 boll weevils were trapped on an 80-acre cotton field in Santa Rosa County. As a result, this field received weekly pesticide treatments for the remainder of the growing season with no additional boll weevils detected.

Pest Detection/Plant Inspection

During the past year, Department plant protection specialists made four interceptions of the European brown garden snail (*Helix aspersa*). These interceptions occurred on nursery stock from California.

Pea Leaf Miner

Liriomyza huidobrensis, pea leaf miner, is a highly polyphagous and serious pest of various vegetable and flower crops including lettuce, onion, pepper, potato, chrysanthemum, carnation and many others. The original distribution of this pest is thought to be in cool, highland areas of northwestern South America, but it has spread widely into Central America, Mexico, California, Europe and Israel. Between July 1, 2000, and June 30, 2001, two out of the 12 samples taken from commodities from California and Mexico were positive for pea leaf miner. Department personnel inspected 31,664 boxes of commodities of which 130 were positive for pea leaf miner.

Apiary Pest Treatments/American Foulbrood

Pest and disease problems have been very minor this fiscal year. Beekeepers are learning how to deal with the small hive beetle problem in the honey house, resistant American foulbrood has been on the decline, and varroa mites are under control. Restrictions on interstate movement of bees because of the small hive beetle have begun to ease.

In fiscal year 2000-2001, of the 237,555 honeybee colonies maintained by registered beekeepers there were 53,166 colonies inspected from 3,397 apiaries. Compensation of \$11,157 was paid to beekeepers for 439 honeybee colonies destroyed because of infestations of American foulbrood disease. This was one third of the amount of the previous year. Also during this time there were 93,953 colonies in 286 loads that moved into Florida from 16 different states and 84,048 colonies in 266 loads that moved out of state. This is a slight reduction from the previous fiscal year.

African Honeybee

Three swarms of African honeybees were detected this fiscal year: one in April from the Jacksonville Blount Island area on a barge that originated from Puerto Rico; the second in May from the port of Miami on the ship Seaboard Voyager from Honduras-Guatemala; and the third in June from the Everglades port area in Fort Lauderdale on the ship SS Grand Princess from Viscaya, Mexico.

METHODS DEVELOPMENT AND BIOLOGICAL CONTROL PROJECTS

Alternative Pesticide Research

In the spring of 2000, aerial- and ground-directed foliar spot applications of spinosad/SolBait against sterile, dyed, released Caribbean and Mediterranean fruit flies were compared in a large field test to the standard malathion/NuLure bait. Significant control results were observed for all treatments but more effectively for Mediterranean fruit fly. To provide additional data in support of the use of spinosad/SolBait for the Caribbean Fruit Fly Protocol, another field test was completed in the spring of 2001. Aerial application of spinosad/SolBait and malathion/NuLure reduced sterile, dyed, released Caribbean fruit flies by 93 percent and 95 percent respectively, compared to an untreated control.

Progress is being made on alternative materials to replace diazinon as a fruit fly soil drench and the development of effective and appropriate application techniques. Dosage and application rates of bifenthrin will be laboratory tested followed by field-testing during the next year.

Several candidate bait stations have been obtained for testing as a long-term attraction and control device for fruit flies. In cooperation with the USDA, the bait stations will be laboratory tested followed by field cage testing and finally tested in field plot studies under Florida conditions.

Other ongoing cooperative research programs involve methods to improve pest management strategies, including developing an improved fruit fly attractant specifically for Caribflies for use in bait sprays. Additional research is being conducted on the evaluation of selected pesticides for effectiveness against Caribfly and possible effects on the environment.

Oriental Fruit Fly Eradication Program

The detection of two Oriental fruit flies in Sarasota (just after the close of fiscal year 2000-2001) on July 12 and 14, 2001, initiated an eradication program using the male annihilation technique. Department personnel participated in five applications at two-week intervals of bait stations over a 6.9-square-mile area. The last treatment occurred on September 19, 2001, and control activities were completed on September 20, 2001. No additional Oriental fruit flies were detected during this period.

Medfly Eclosion/Release Facility for SIT/PRP

The Preventive Release Program involves the continuing aerial release of sterile Mediterranean fruit flies to deter the establishment of any introduced wild flies and acts as a reserve for a sterile release program should an infestation occur. Each week 85 million sterile Medfly pupae are received from a USDA facility in Guatemala and eclosed at the joint DPI/USDA facility at MacDill AFB in Tampa. These sterile flies are released at the rate of 125,000 per square mile over portions of four counties: Dade, Hillsborough, Manatee and Sarasota. A total of 2.5 billion sterile Medflies were released during fiscal year 2000-2001 over a 492-square-mile release area.

In addition, studies on replacing existing plastic adult rearing containers with the tower prototypes for eclosion have been completed. The USDA has allocated funding to purchase an equivalent number of towers.

Supporting Florida Agriculture

Automated Ground Release Equipment

The first test to evaluate the efficacy of the automated ground-release equipment (using Caribbean fruit flies) was conducted in St. Lucie County in June and July 2000. A second test conducted in Tampa using Mediterranean fruit flies was recently finished. Results from both trials indicated the need for improvement of the equipment to lower the mortality levels due to possible mechanical damage. The use of this equipment 1) in sensitive and inaccessible areas such as those adjacent to airports, and 2) as a supplement to aerial SIT during eradication programs is becoming increasingly important. Additional testing is planned in the spring of 2002 to determine equipment modifications needed and to check quality of released Caribbean fruit flies.

Biocontrol Rearing Facility

The facility continued its production of the Caribbean fruit fly, rearing approximately 334 million this year, or an average of about 6.4 million per week. Although the total production was down due to decreased demand, the average larval and pupal production per tray of diet rose to 50,230 from 47,500 for the previous fiscal year. This translates into a 5.75 percent increase in production efficiency. Various life stages were supplied to researchers at the University of Florida and the USDA as well as for the Department's alternative pesticide testing, automated-release machine studies, and parasitoid rearing.

The facility continued to rear the parasitoid *Diachasmimorpha longicaudata*, with 1.3 million parasitoids produced from 2 million Caribfly larvae, a 62 percent parasitism rate. More than 575,000 combined parasitized larvae, pupae, and adult wasps were sent to various researchers at the University of Florida and the USDA. The Department also conducted preliminary studies on alternative adult wasp diet material.

Phorid Fly

In May 2001 the Biocontrol Rearing Facility began modifying several rooms to accommodate the mass rearing of a phorid fly, *Pseudacteon tricuspis*, for release as a biological control agent for the imported fire ant, *Solenopsis invicta*. This endeavor is a joint venture with both the USDA-ARS and APHIS and encompasses personnel from several agencies and many of the southern states. Modifications to the facility, building of specialized rearing attack boxes, and training of rearing personnel is ongoing. Phorid fly production will be scaled up in the fall for field release efforts in the spring of 2002.

Diaprepes Root Weevil

Diaprepes root weevil, a serious long-term pest of citrus and other agronomic crops of Florida, has continued to be of major concern for many citrus, vegetable, tropical fruit and ornamental nursery growers. Currently, there are approximately 45,000 acres of citrus in 21 citrus-producing counties infested with this pest.

Mass rearing of *Diaprepes abbreviatus* continued in the Department's Biocontrol Rearing Facility with colony production stabilizing due to improved and refined rearing techniques. Diet was inoculated with more than 155,000 neonate larvae and more than 29,000 grubs were transferred to single-diet cups. Of those, more than 13,000 reached the pupal stage, and 11,000 became adults. Development time remains lengthy and highly variable, with eggs collected in September and October

2000 still producing viable pupae and adults more than 10 months later. Shipments to various researchers included more than 20,000 neonate larvae, 2,300 grubs, and 8,700 adults.

The Department has cooperated with U.S. Sugar Corporation, UF-IFAS, USDA, and the Kerr Center in the introduction, rearing and release of *Quadrastichus haitiensis*, an egg parasite of *D. abbreviatus*. This parasite was imported in November 1998 into Florida from Puerto Rico. During the past year the Department reared and shipped 600,000 *Q. haitiensis* for release in Dade, Hardee, Hendry, Hillsborough, Indian River, Lake, Orange, Polk and St. Lucie counties, and as a result *Q. haitiensis* has been established at several locations in Dade, Hendry and St. Lucie counties.

Cooperative research continues on the evaluation of selective pesticides for control of adult and immature life stages in nurseries. The evaluation of a new pesticide for control of immature weevils for up to two years has been completed, and an EPA registration is pending. Other studies continue, including efforts to improve current methods for surveillance and detection techniques for nurseries and citrus groves, field studies on adult weevil dispersal, trap efficiency, adult weevil longevity and reproductive biology. These research activities are funded by the Florida Citrus Production Research Advisory Council box tax and are in cooperation with University of Florida-IFAS research and education centers located throughout the state.

Florida Accelerator Services and Technology (FAST)

Commercial irradiation services continue with semiconductors as the primary commercial product irradiated using the linear accelerator. Diaprepes diet has been the main non-commercial product with 1,358 trays of diet irradiated. The X-ray target has provided a method to irradiate potted plants as well as plant cuttings, budwood and other plant tissue for plant mutation research. X-rays also were used to irradiate 16 million Caribbean fruit fly pupae. The Cesium-137 irradiator was used to process 245 lots including more than 5 million CFF larvae and pupae for research purposes.

Pink Hibiscus Mealybug/Papaya Mealybug

In preparation for the possible discovery in Florida of pink hibiscus mealybug, *Maconellicoccus hirsutus*, striped mealybug continues to be cultured in our laboratory. This insect is used to rear a lady beetle, *Cryptolaemus montrouzieri*, a predator of *M. hirsutus*, which will be available when the pest arrives in Florida. Japanese pumpkin was also grown in Gainesville to provide food for the striped mealybugs. Approximately 300 pounds of Japanese pumpkin were harvested in July 2001.

Papaya mealybug, *Paracoccus marginatus*, has spread to several counties in Florida, including Alachua, Brevard, Broward, Collier, Dade, Hillsborough, Manatee, Martin, Monroe, Palm Beach, Polk, Sarasota and Volusia. In cooperation with USDA-APHIS-PPQ, four parasite species (*Anagyrus sp.*, *Apoanagyrus sp.*, *Acerophagus sp.*, and *Pseudaphycus sp.*) were released in Bradenton (Manatee) to control papaya mealybug. At present the papaya mealybug population has been reduced in the Bradenton area.

Asian Citrus Psyllid

Asian citrus psyllid, *Diaphorina citri*, was discovered at Boynton Beach on June 2, 1998, by Department personnel. It spread to 12 counties in south and central Florida along the east coast by summer of 1999, to 21 counties as of May 2000 and to 28 counties in 2001. It is one of the most efficient vectors of greening disease of citrus. If greening disease is ever found in Florida, this vector could spread it throughout the state. In cooperation with UF-IFAS, two parasites of *D. citri*, *Diaphorencyrtus aligarhensis* and *Tamarixia radiata*, were introduced in the Department's quarantine

Supporting Florida Agriculture

laboratory on October 21, 1998, and a permit for field release of *T. radiata* was granted on July 12, 1999, and for *D. aligarhensis* on March 10, 2000. That year, approximately 20,000 *T. radiata* and 4,000 *D. aligarhensis* were reared in the laboratory at the Department of Entomology and Nematology, University of Florida. In 2001, 30,000 *T. radiata* and 2,000 *D. aligarhensis* were reared. They were released in Collier, Dade, Hendry, Martin, Indian River, Lake, Okeechobee, Orange, Palm Beach and St. Lucie counties. *T. radiata* has since been found to be established at several locations in those counties. The Department continues to monitor the effectiveness of these parasites.

Brown Citrus Aphid

Brown citrus aphid, *Toxoptera citricida*, was detected in Broward and Dade counties in November 1995. At present the aphid has spread throughout the citrus-growing region of Florida. It causes economic losses by feeding on young citrus foliage and depleting sap. This aphid is one of the most serious pests of citrus due to its transmission of citrus tristeza virus (CTV). *Lipolexis scutellaris* adults from Guam were imported into the Department quarantine laboratory on August 19, 1999, and a permit for release of this parasite was granted on June 21, 2000. Approximately 15,000 (in 2000) and 25,000 (in 2001) *L. scutellaris* reared at the Department laboratory and University of Florida were released in Alachua, Dade, Hardee, Hendry, Indian River, Lake, Marion, Martin, Orange, Palm Beach, Polk and St. Lucie counties.

Giant Whitefly

Giant whitefly, *Aleurodicus dugesii*, a serious pest of hibiscus and ornamentals was first found in Florida in Volusia County in December 1996. The population has increased and spread to at least 14 additional counties, including Brevard, Flagler, Hardee, Highlands, Hillsborough, Indian River, Lake, Manatee, Martin, Orange, Osceola, Polk, Seminole and St. Lucie. Two parasites, *Entedononecremnus krauteri* (collected in San Diego, California) and *Encarsia noyesi* (from Mexico), were released in Florida in 1997-1998. During June 2001, a survey at two newly detected infestations in Winter Haven (Polk) was conducted. At one location, *E. noyesi* was dominant, but at another location about 10 miles away, *E. krauteri* was dominant. Thus *E. krauteri* and *E. noyesi* coexist and are providing adequate biological control of giant whitefly in Florida.

Citrus Leafminer

The Department has continued to rear and release the citrus leafminer parasite *Ageniaspis citricola*, especially in the areas that are infested with citrus canker in Miami and Immokalee. This parasite has been established in citrus-growing areas in Florida and should continue to be released at outbreaks in late spring to prevent the build up of citrus leafminer in the summer.

Citrus Blackfly/Silverleaf Whitefly

The Department maintains a colony of citrus blackfly and its parasites, *Amitus hesperidum* and *Encarsia opulenta*, for release of the parasites at isolated outbreaks in Florida. In April and October 2000, *A. hesperidum* was sent to Trinidad to control the citrus blackfly that was recently discovered there.

Eretmocerus sp. (HK), a parasite of silverleaf whitefly continues to be reared and released in limited locations in Florida.

Pepper Weevil

The pepper weevil, *Anthonomus eugenii*, is a serious pest of peppers and vegetables in Florida. In cooperation with University of Florida-IFAS, an attempt at introduction into Florida of *Triaspis eugenii*, a braconid parasite of pepper weevil from Mexico was made in April 2000. Rearing attempts have failed after three generations in the quarantine laboratory, but efforts will be made to reintroduce this and another parasite in the future.

Training and Compliance, Fumigation, and Miscellaneous Activities

Division of Plant Industry personnel continued to 1) provide training and testing for employees for restricted-use pesticide licenses, 2) coordinate applications and maintain records of CEU's for those licenses, 3) provide record keeping for right-to-know and material safety data sheet files, 4) coordinate disposal of hazardous chemicals for Department activities, and 5) provide security/monitoring of Gainesville facilities.

Fumigation of specimens, books and reprints for the Florida State Collection of Arthropods continued at the Gainesville fumigation chamber. Annual evaluations and certifications of methyl bromide fumigation chambers used for blueberry fumigation were conducted during this period.

The Department maintains continuous fruit fly trap lines in portions of St. Lucie, Indian River and Martin counties. These traps are serviced weekly and the results tabulated for later reference concerning the variation in the seasonal Caribbean fruit fly population. This data is essential in assisting the Caribbean Fruit Fly Protocol or when conducting tests that involve the use of biological control agents or other means used to suppress this pest.

The Department also provides technical assistance in the rearing and maintenance of a mole cricket colony located at the UF-IFAS in Gainesville. This colony is a source of healthy specimens necessary to carry on different control research projects conducted throughout Florida.

Post-harvest Fumigation at Wahneta

Shipments of fresh Florida produce are required to be fumigated with methyl bromide at the Wahneta fumigation facility in order to satisfy certification requirements of important domestic and foreign markets. California, Hawaii, Texas and Japan require fumigation of citrus fruit not qualifying under Caribbean Fly-free Zone Certification Protocol. All citrus fruit shipped to Arizona has to be fumigated.

During fiscal year 2000-2001, the Wahneta fumigation facility fumigated and certified 185 truckloads of citrus, two truckloads of blueberries, and 19 truckloads of Spanish moss.

Winter Haven Automotive Maintenance Shop

The Department's Winter Haven Maintenance Facility provided maintenance for vehicles and equipment as well as technical support for the Medfly Program, Caribbean Fruit Fly Protocol Program, Agricultural Law Enforcement Unit, Citrus Canker Program, Division of Fruit and Vegetables, Oriental Fruit Fly Program, Division of Citrus Budwood Registration, Gainesville bureaus of Administration, Plant and Apiary Inspection, and Methods Development and Biological Control. Shop personnel participated in ground and aerial spray operations. The Department furnished storage and transportation of supplies and equipment for eradication programs, maintained vehicles and equipment, kept records, and assisted in purchasing.

ENTOMOLOGY, NEMATOLOGY AND PLANT PATHOLOGY

Entomology

For fiscal year 2000-2001, the Department processed 7,791 samples totaling 213,415 individual specimens. During that same period, 18 exotic species were found apparently established within the state, including one new state record.

Nematology

The Department analyzed 18,621 soil and root samples in fiscal year 2000-2001. More than 164,000 specimens were examined.

Plant Pathology

For fiscal year 2000-2001, the Department processed 3,369 samples in the plant problem clinic and also made 39,154 diagnoses for citrus canker for the statewide Citrus Canker Eradication Program.

Botany

For the fiscal year 2000-2001, the Department processed 4,768 botany samples.

Fruit Fly Identification Laboratory

Department and USDA inspectors together service approximately 50,000 traps statewide. Of these traps, the Fruit Fly Identification Laboratory processed 211,825 different fruit fly detection traps and screened about 1,557,000 sterile Medflies and wild Caribflies.

During this period, two exotic fruit fly introductions occurred: one Oriental fruit fly in Kissimmee (Orange County) and one Guava fruit fly in Apopka (Osceola County). Through early detection and control efforts, the Oriental fruit fly and guava fly did not become established but were declared eradicated.

Advanced Diagnostics Laboratory

In fiscal year 2000-2001, the Advanced Diagnostics Laboratory conducted diagnostic tests on 110 molecular samples (citrus greening, citrus canker, Africanized honeybee, Medfly and imported fire ant certification). Also, 962 developmental, calibration and optimization tests were also performed.

Florida State Collection of Arthropods

For the fiscal year 2000-2001, donations to the Florida State Collection of Arthropods (FSCA) totaled more than 115,000 specimens, with the total number of specimens now more than 8 million. Also during that time period, 20 guided tours were given at the FSCA, with 378 participants. In addition, 97 other visitors came to study the collection, the sixth-largest collection in the United States and the largest in the South.

Promoting Florida Agriculture

FLORIDA SUN FRESH PROMOTION

Working closely with the Florida Tomato Committee for a second year, Department representatives increased the retail participants in the “Florida Sun Fresh” tomato promotional campaign from 298 outlets to 700. For the first time, retail participation expanded beyond Florida to include seven outlets in two other states.

Promotional activities included display contests and incorporation of the “Florida Sun Fresh” logotype on products and point-of-sale materials designed and supplied by the Division of Marketing and Development. A survey of produce managers supplied insight to the impact of the campaign on sales and future trends. Overall, sales of Florida tomatoes were reported to have increased by \$7.5 million over 1999-2000.



Promoting Florida Agriculture

TRADE LEADS

Trade leads are generated domestically and internationally and are screened for applicability to Florida agribusinesses before they are quickly distributed to hundreds of exporters throughout the state. Sales cover a variety of commodities, from cattle to hay to citrus products, and can range from a few thousand dollars to multimillion-dollar deals. Many exporters in international trade develop new ties that will be retained and cultivated for many years to come.

Currently, Florida exports \$1.3 billion in agricultural commodities (17 percent of total production) domestically and internationally, supporting 30,000 full-time jobs statewide. Over \$14.1 million in sales can be attributed to the Trade Lead Program in 2000-2001.

FLORIDA CITRUS IN CHINA

The Department sent a team of six marketing researchers into China to conduct the largest survey of Chinese consumers ever undertaken. During October 2000, five cities — Beijing, Shanghai, Hangzhou, Guangzhou and Chongqing — were selected for the consumer research. The team returned with 5,263 consumer interviews which provided the most in-depth understanding of Chinese consumer preferences to date. Much of this information was published in a report titled "A Path for U.S. Citrus Products," which contains extensive insight into consumer buying habits, graphic illustrations of data, briefs on individual cities, historical perspectives, and information on Chinese consumers who for the most part have been shielded from the world for decades.

Reductions in tariffs (dropping from 40 percent to 12 percent) scheduled to take place in China beginning in 2004 put Florida in a prime position to substantially increase exports to this market containing 300 million potential customers.



TRADE MISSIONS AND REVERSE TRADE MISSIONS

The Department continues to market Florida agricultural products to the world through an array of overseas trade missions and by hosting foreign delegations.

Working with such organizations as the Southern United States Trade Association and United States Livestock Genetics Export, the Department conducted trade missions to Guatemala, Mexico, Puerto Rico, Australia and New Zealand. These missions promoted citrus, fresh fruits and vegetables, value-added products, cattle and horses.

Delegations were hosted in Florida from China, Romania, Bolivia, Colombia, Ecuador, Peru, Venezuela, Honduras, Puerto Rico and Nicaragua. These reverse trade missions provided opportunities for the Department to promote Florida agriculture by giving visiting representatives firsthand knowledge of its quality and scope.

FLORIDA CATTLE SALES TO PUERTO RICO

During 2000-2001, the Department continued its relationship with the Puerto Rico Beef Board and the Puerto Rico Department of Agriculture. A delegation from Puerto Rico was escorted for the

second time to Florida ranches to select cattle to restock their herds. They purchased more than 100 animals, which were shipped from the Port of Jacksonville to San Juan.

The Department continues to position Florida as a supplier of superior breeding stock to Puerto Rico and Latin American countries. Cattlemen in these areas have been very pleased with the result of the quality of the tropically adapted cattle from Florida.

FRESH FROM FLORIDA MAGAZINE

"Fresh From Florida," a high-gloss, full-color, quarterly publication, promotes Florida's agricultural industry through Florida Agricultural Promotional Campaign (FAPC) feature articles on its members, Department promotions, industry-sponsored events, and seasonal articles on specific commodities. "Fresh from Florida" is distributed to FAPC members, national and international buyers of agriculture products, retailers, and other agri-business industry professionals. It is also distributed at national and international trade and industry events throughout the year. Advertising sales offset production costs.

CHILL IT OR GRILL IT PROMOTION

In April 2001, the Department unveiled "Chill It or Grill It" the FAPC's newest fresh produce promotion. This statewide campaign opened up a sales window during the height of the season for Florida produce commodities, including bell peppers, cabbage, carrots, cauliflower, celery, cucumbers, eggplant, lettuce, mushrooms, radishes, squash, tomatoes, sweet corn, and watermelon.

The video promotion featured Florida Department of Agriculture Executive Chef Tom McGinty and Jennifer Kring, a well-known nutrition expert and licensed dietitian, preparing fresh Florida fruit and vegetables by grilling them for flavor or chilling them for salads. Television commercials ran from

April 23 to May 4 on major network affiliates in Jacksonville, Miami, Orlando, Tampa and St. Petersburg. In addition the 30-second spot aired at least

2,157 times from April 15 through May 19 on cable systems throughout the state.

Point-of-purchase materials were placed by Department representatives in key grocery stores (Albertson's, Kash n' Karry, Publix, Winn Dixie, and Wal-Mart Supercenters) in Jacksonville, Miami, Orlando, Tampa and Tallahassee. In addition, window posters, aisle posters, bin wrap, and entry forms were distributed to produce managers in each of the 1,280 stores.

The consumer message was reinforced by quarter-page newspaper ads that ran the week before the promotion in the Fort Myers News-Press, Jacksonville Times Union, Miami Herald, Orlando Sentinel, Palm Beach Post, Tampa Tribune, and Tallahassee Democrat. Over 3 million consumer impressions of the "Chill It or Grill It" message were gained from this campaign component, while consumer impressions for the entire campaign totaled 478,601,884.

The Department and the Florida Propane Gas Association offered consumers the chance to win a deluxe propane gas grill, a portable propane gas grill, or a cooler from drawings held on behalf of participating grocery stores. More than 3,000 entries were mailed from 145 Florida cities, and 1,700 consumers participated in the drawing electronically by e-mailing their entries. The winners were chosen on June 15, 2001. Store managers presented the grand prizes to the winners.



FLORIDA MARKET BULLETIN

Published regularly by the Department since 1917, the Florida Market Bulletin is a vehicle for keeping Florida's farming community informed of issues affecting the state's agriculture industry and the Department. In addition to disseminating agricultural news and information, this agricultural newspaper provides a forum by which Florida residents can advertise to buy or sell agriculture-related items through its classified advertising section. During the 2000-2001 fiscal year, 4,954 classified ads appeared in the Market Bulletin, which is published monthly and serves approximately 18,000 Florida farming households.

PRINT, VIDEO AND RADIO PRODUCTION

The Bureau of Education and Communication is responsible for educating and informing consumers and helping coordinate the communication efforts of the Department through news releases, brochures and other publications, exhibits and displays, graphics presentations, the Internet, and other multimedia productions. Bureau productions are a major component of the Florida Agricultural Promotional Campaign (FAPC), which assists the state's agricultural community in expanding markets and promoting and selling Florida-grown products.

During fiscal year 2000-2001, the bureau issued more than 80 press releases to inform the public about regulatory and promotional activities of the Department. Additional publications regularly produced and distributed include the Department's Annual Report, as well as Open Lines, the Department's employee newsletter.

In addition, the bureau produced numerous brochures, booklets, and other printed materials pertaining to the variety of activities of the Department's 12 divisions. The Graphics Section was involved in the production of more than 120 major/intermediate projects and an additional 150 ancillary projects. The bureau also responds to inquiries from the public, mailing out publications and other informational and promotional materials upon request.

Major graphics productions during fiscal year 2000-2001 included numerous printed components for the "Dive In" aquarium fish campaign; a magazine insert for the Ag Institute of Florida; workbooks for the Florida 4-H Foundation; a consumer survey data report and point-of-purchase materials for exporting citrus to China; wildfire/arson billboards, ads, flyers and posters; point-of-purchase materials for the "Florida Sun Fresh" tomato campaign; posters and brochures warning of foot-and-mouth disease; a seafood handling guide; and an oyster report.

The bureau produces and disseminates informational, educational, and promotional audio and video productions, such as television and radio public service announcements, radio programming, television news segments, documentaries, and training videos.

Numerous television public service announcements and promotional spots were produced on such issues as:

- Wildfire Prevention — urging residents to exercise caution with trash fires and to report arson or suspicious activities.
- The Citrus Canker Eradication Program in South Florida — urging residents to make sure their lawn service company is following proper decontamination procedures, and urging them not to move fruit from within the quarantine zone.
- The No Sales Calls List — a program in which consumers can prevent unwanted telephone sales solicitation calls.
- The Florida State Fair in Tampa.

Promoting Florida Agriculture

Agricultural producer assistance videos and television spots produced during the fiscal year included the following:

- Aquarium fish instructional/training video for retail sales staff at businesses that sell aquarium fish and aquatic plants.
- Florida's seafood industry television PSA, explaining how the efforts of Florida's fishermen provide consumers with a generous supply of wholesome seafood.
- "Chill It or Grill It," a television spot promoting consumption of Florida's harvest of spring vegetables.
- AgVenture Services video promoting a hay bale nutrition system developed by a member of the Department's agricultural economic development program.
- Propane gas video for use at trade shows and other promotional events.
- Equestrian program video outlining the potential for an equestrian program at a state university.
- Future Farmers of America video of state officers.

A major documentary video, "Grazing on the Florida Landscape: A Discussion of Public-Partnership," was produced in conjunction with several agricultural associations, governmental agencies, and a university. This video outlines the history and environmental, agricultural, economic, and social implications of leasing public lands to cattle owners for grazing purposes. Sponsors of this documentary included the Southwest Florida Water Management District; South Florida Water Management District; Florida Center for Environmental Studies; Florida Atlantic University; 6th Contracting Squadron, U.S. Air Force; Florida Farm Bureau Federation and Affiliates; Florida Cattlemen's Association; Florida Section, Society for Range Management; and the Office of Agricultural Water Policy, Florida Department of Agriculture and Consumer Services.

Another documentary video, "The 2000 Agricultural-Environmental Leadership Awards," details the progressive environmental efforts of Pacific Tomato Growers Ltd., of Palmetto, and Evans Properties of Vero Beach.

Radio programming during the fiscal year included promotional spots for the Florida State Fair, as well as public service announcements promoting the WIC/Farmers' Market Nutrition Program and community farmers' markets.

The Department's advertising and marketing efforts for calendar year 2000 were recognized by the professional advertising community through the presentation of 11 Addy Awards, which recognize excellence in creativity, originality, and creative strategy in print and electronic media. The Department received three gold awards, six silver awards, a best of show award, and a silver district award. Winning entries included the "Florida Forests Forever" campaign; the "Turn Pro" propane gas campaign; the "Florida Sun Fresh Tomato" campaign; the "Dive In" campaign; the "China Consumer Research: A Path For Florida Citrus" consumer survey data report; the "Florida Bistro" cookbook; and a series of colorful seafood recipe brochures featuring numerous species of Florida finfish, shellfish, and aquaculture products.

PROMOTING FLORIDA AGRICULTURE ON THE WORLD WIDE WEB

The Division of Marketing and Development's Internet web site, www.fl-ag.com, contains information and materials that help Florida farmers more effectively market their commodities. These marketing tools include trade leads, market prices, and information about export assistance programs, agricultural statistics, weather reports, license and bond requirements, and agricultural classified ads. The web site also helps inform consumers about the wholesomeness, variety and availability of Florida agricultural products. This is done by providing nutritional data, recipes, seasonal availability information, food safety tips, and more. The web site fosters the notion that the more consumers know about the many agricultural commodities grown in Florida, the more they will choose to buy products that are "Fresh from Florida."

PLANET AG

An educational web site for students is also found at www.fl-ag.com. "Planet Ag" contains information to assist students in selecting a topic and carrying out their science fair project. The site provides students with an explanation of the scientific method, from choosing a topic and stating a hypothesis to deciding on a procedure and recording the results. The site also features a sample project for students to review, a look at a few previous winners' projects, and links to other agriculture- and science-related sites. Planet Ag also provides an overview of the importance of agriculture to Florida and examines career possibilities in agricultural science, offering suggestions to students about which courses to take in high school and college. The goal of Planet Ag is to encourage today's bright young students to become interested in agriculture and its role in our planet's future.



SEAFOOD AND AQUACULTURE MARKETING

The Department is committed to serving the following three seafood and aquaculture audiences with integrity and professionalism to increase Florida seafood and aquaculture industry's profit through global marketing and education:

- Consumers seeking information to wisely purchase, prepare, serve and store seafood and aquaculture products.
- Producers (fishermen, processors and aquaculturists) needing technical, educational, marketing, and promotional assistance, as well as safety, handling and storage information.
- Retail and wholesale buyers and sellers seeking new sources and new types of seafood products, marketing and promotional assistance, as well as safety, handling and storage information.

Promoting Florida Agriculture

The Bureau of Seafood Marketing uses printed materials; news releases; appearances at regional seafood festivals; and public service announcements to television, radio, and the print media to actively distribute seafood recipes and educational information about seafood. This year, 480,291 brochures, posters, fact sheets, recipe tear-off cards, bumper stickers, and truck decals were distributed, and 117 newspaper, magazine, on-line magazine, and TV and radio seafood articles and PSAs were created. As a result, 44.3 million consumer impressions were generated nationwide.

Florida fisherman and processors took advantage of several marketing and promotional opportunities to sell their products. Most of the Department's marketing and promotional programs use the eye-catching "Fresh from Florida" logo and are backed by multi-level campaigns creating consumer awareness and interest that fuels the demand for Florida products. More than 1,000 seafood and aquaculture companies participated in the Florida Agricultural Promotional Campaign that offered incentives to boost the use of the Fresh from Florida logo in product packaging. Nineteen seafood and aquaculture companies incorporated the "Fresh from Florida" logo on their cartons and product packaging, reaching more than 62 million people. Six companies participated in the Fresh from Florida pavilion during the 2001 International Boston Seafood Show. They reported \$1.7 million in immediate sales and anticipate an additional \$5.2 million during the next year. More than 23,000 grocery, foodservice, distributor and wholesale buyers visit this show each year.



The Department produces several publications highlighting Florida seafood and aquaculture companies' products, promotional and marketing programs, technical services, and exporting opportunities. The Locator is an electronically distributed newsletter of companies and products currently available for export. More than 54 U.S. embassies and foreign companies received this newsletter each quarter. The embassies share The Locator with more than 4,000 importers who can directly contact the Florida exporters listed in each issue. Any Florida company certified to export can use The Locator to globally advertise its products to a select audience of seafood, aquaculture, and marine life buyers. A bi-weekly Fresh from Florida Fax Trade Leads program targets exporting opportunities for seafood and aquaculture producers and distributors. More than 250 companies received seafood and aquaculture trade leads and credited this service with generating \$1.3 million in sales. Marketing and promotional opportunities for seafood companies can be found in the "Fresh from Florida" magazine, which is sent to more than 8,542 subscribers.

Technical assistance to improve processing, handling and storage practices assumes many forms. The Department presented an overview of technical services during 20 industry trade meetings and responded to 5,248 individual requests for information. A guidebook was developed to assist retailers with proper handling and storage information.

The Department successfully acquired a USDA Federal-State Marketing Improvement Program grant to identify and assess potential direct markets for farm-raised shrimp grown on small Florida farms. The grant will assist Florida shrimp growers to determine the best markets and best products for those markets through nationwide market research targeting the consumer. The research methods include trade surveys, on-site personal interviews, literature review, quality assessments, focus groups, taste tests, and consumer surveys.

Promoting Florida Agriculture

TROPICAL FISH CAMPAIGN

The Dive In! Aquarium Fish Campaign — a partnership with the Florida Tropical Fish Farms Association, American Pet Products Manufacturers Association, and aquatics industry companies — is a nationwide consumer and retailer marketing and promotional campaign developed to increase



sales and consumer awareness of tropical fish and aquarium accessories. This multi-component campaign touts the positive social, psychological, entertainment and economic attributes of aquarium ownership. The 2000-2001 campaign ended with 16.8 million gross impressions and \$137,365 in earned publicity. The year was kicked-off with the "Take a Fish to Work" media event in Chicago, which produced 3.5 million consumer impressions. The following components were also highlighted this year: 1) press releases and interviews with pet

industry trade publications; 2) media kit distribution to more than 170 publications in fields such as general interest, health, kids, family, home/interior design, and seniors; 3) features on seven television broadcast outlets; 4) initiation of FisHedz Kids Online Club; 5) development of Dive In! Pro retailers' training program and retail support promotional materials and brochures; and 6) participation in five pet industry trade shows.

AMERICAN ALLIGATOR CAMPAIGN

The Department works in partnership with the Florida Alligator Marketing and Educational Advisory Committee to pro-actively educate potential target markets about the attributes of alligator leather and the industry's conservation efforts to protect the species through the American Alligator



Marketing Campaign. This year's campaign gained the industry almost 4 million gross impressions with an earned media value of \$248,034. The campaign included elements such as: 1) the co-sponsoring of four trade events with the Louisiana Department of Agriculture and Forestry; 2) the creation of ads and news releases targeting upscale consumer magazines, fashion trade magazines, manufacturing publications, and food service publications; 3) the distribution of the multimedia presentation kit "Alligator Designs," which included an information booklet and video, to over 200 fashion industry companies; 4) the

research of the potential use of finished leather in fashion pieces through personal interviews with selected New York apparel and accessories designers.

FOOD DISTRIBUTION

The Department administered or provided support through commodities or cash for a number of U.S. Department of Agriculture programs in Florida, including the National School Lunch Program, Summer Food Service Program, and The Emergency Food Assistance Program, which provides commodities for distribution to the needy.

More than 340 agencies, including schools, food banks, food pantries, and mass household distribution organizations received close to 85 million pounds of food. Over 3.6 million people were reached daily, making Florida's food distribution program the fourth largest in the nation.

The Department's Food Recovery Program works to eliminate hunger and food insecurity in the state. This year, Florida farmers donated more than 11 million pounds of fresh produce for distribution to the needy. The Department published the Food Recovery Resource Guide 2000-2001, which lists organizations involved in food recovery. Approximately 60,000 copies of these booklets were distributed to entities involved in the preparation of meals and/or the sale of food items such as schools, restaurants, hotels, and grocery stores.

WIC/FARMERS' MARKET NUTRITION PROGRAM

The Florida Department of Agriculture and Consumer Services and the Florida Department of Health jointly administer the Women, Infants and Children/Farmers' Market Nutrition Program (WIC/FMNP). This U.S. Department of Agriculture program has two statutory objectives: 1) to provide resources in the form of fresh produce to women and children who are nutritionally at risk, and 2) to help local farmers by expanding awareness, participation, and sales at local farmers' markets. Booklets offering \$556,220 in \$4 coupons were provided to 28,000 eligible WIC clients in Alachua, Bay, Escambia, Gadsden, Jackson, Leon, Okaloosa, St. Johns, Santa Rosa, and Suwannee counties. Participants can redeem the coupons when they purchase locally grown fresh fruits and vegetables from authorized farmers at community farmers' markets. WIC/FMNP continues to be very successful, achieving a 54 percent redemption rate despite the drought conditions experienced by the state this season. The program has been enthusiastically received by the WIC clients and participating farmers alike, with many farmers participating repeatedly and also encouraging other farmers to join.





Ensuring A Safe, Wholesome Food Supply

The Department's experienced staff of trained inspectors and extensive network of laboratories monitor approximately 41,000 retail food stores, processing plants, and similar businesses to ensure compliance with food wholesomeness and safety standards. The Department maintains a close working relationship with the U.S. Food and Drug Administration (FDA), the U.S. Department of Agriculture (USDA), the Florida Department of Health, and the Florida Department of Business and Professional Regulation to share information, avoid duplication of effort and carry out food safety activities more effectively and efficiently.

The Department continues to emphasize proper sanitation and food-handling procedures in the establishments it inspects while also providing consumer protection safeguards by checking the accuracy of product labels, net weights, and grade standards.

Ensuring A Safe, Wholesome Food Supply

The Department also continues to assist the food industry through training for the implementation of Hazard Analysis Critical Control Point (HACCP) programs. HACCP concentrates on preventing or controlling food safety hazards, which may occur during any stage of the food production or handling process. Thus far, HACCP training efforts have concentrated on high-risk foods including sprouts, unpasteurized citrus juice, and seafood including sushi.

One of the Department's major missions is to protect the public from unsafe foods by monitoring for foodborne pathogens, pesticides, and other chemical residues for the enforcement of established tolerances.

The Department is a leader in the development and implementation of sophisticated analytical techniques and methods to ensure the safety of foods throughout the production and distribution process.

By administering the Interstate Milk Shippers Program and similar state regulations, the Department assures consumers that dairy products are wholesome and are produced, processed, and merchandised under sanitary conditions. These programs also enable Florida dairy farmers to ship their products in interstate commerce.

The Department emphasizes the prevention of foodborne illness, and if a critical situation relating to food safety arises, the Department has the authority to immediately halt the sale of products deemed hazardous to the public.

FOOD INSPECTION

The Department has broad consumer protection responsibilities in the area of foods, including the monitoring of more than 41,000 retail food stores, food processing plants, and similar businesses in Florida to assure compliance with food wholesomeness and safety standards. Those responsibilities include approximately 2,300 water vending machines. During fiscal year 2000-2001, the Department conducted 71,623 inspections to determine compliance with sanitation standards or HACCP requirements. Other frequent activities by food inspectors included visits to establishments for complaint investigation, administrative purposes, sample collection, and enforcement actions such as placement or removal of stop-sale or stop-use orders.

As a result of this inspection activity, the Department cited 4,015 individual food businesses for failure to meet sanitation and food safety standards; 196 of those firms received administrative complaints and were assessed \$407,170 in fines. In other actions resulting from surveillance inspections, 22,867 notices of violation and 24,783 stop-sale and stop-use orders were issued with the stop-sale orders removing 1,836,998 pounds of unsafe or otherwise unfit food from the Florida marketplace.

In addition to sanitation and food safety concerns, inspections also entailed a variety of other consumer protection safeguards, such as reviewing food labels for accuracy and for compliance with federal and Florida requirements. Packaged foods were test-weighed to assure net weight accuracy. Ground beef was tested for the presence of fillers and sulfites as well as to ensure that the amount of fat was correctly stated on the label and that poultry or pork products had not been added. Shucked oysters were tested for mandatory expiration dating and added water. Eggs were examined to verify labeled grade and size. Other foods received similar quality and safety checks.

Several Florida firms were found to be selling lobster tails that had been glazed with ice, which misrepresented the net weight for product retailing at \$13 to \$15 per pound. Some 40,000 pounds of product was placed on stop-sale for adjustment of the declared net weights, and fines totaling \$69,000 were levied against the offending firms.

Ensuring A Safe, Wholesome Food Supply

An important part of the food inspection program is response to consumer needs and concerns. Numerous telephone calls, e-mail messages, and letters were received from consumers during the year, asking a variety of questions about food in general or specific foods in the marketplace or expressing a concern about food establishment conditions. A total of 2,704 consumer complaints were investigated during the year, and each person filing a complaint was advised of the findings.

The Department continues to work in close cooperation with FDA and USDA on food safety activities. Under contractual arrangement with the FDA, the Department inspected 331 interstate food processors and collected 796 samples, of which 50 were analyzed in FDA laboratories and 746 in the Department's Food Laboratory. The Department and the FDA have also entered into partnerships in several program areas to avoid duplication, share information, and assist each other in carrying out food safety activities. The Department continued to provide egg and poultry grading and inspection service for 12 establishments under authority of a long-standing cooperative agreement with the USDA. A total of 788 million pounds of poultry and eggs were graded or inspected in order to qualify for labeling under USDA standards.

The Department continues to emphasize the enforcement of Florida's statutory requirement that the country of origin of any fresh fruit or vegetable produced outside the United States be identified to food store customers. This identification can be accomplished through labeling of individual items or by signage at the display. During the year, 765 violations were identified, and 342 administrative fines totaling \$108,600 were received from establishments that had violations.

The Department also continued its surveillance of herbal dietary supplements containing harmful compounds. Ingestion of products containing ephedrine alkaloids (sometimes called ma huang) has been associated with several deaths, including at least one in Florida. Surveillance efforts, supported by laboratory analysis, have resulted in 13 products being banned by the Department. Active inspection monitoring and testing of suspect products continued due to the popularity of these types of food supplements and their continually changing formulations, label irregularities, and use of brand names. These efforts have been effective in reducing the risk to Floridians from these products.

The Department initiated administrative actions against approximately 831 food establishments that did not pay the required renewal fee for a Food Establishment Permit, and the Department collected \$169,364 in administrative fines and fees for late payment. These establishments were open for business and had been inspected but were in violation because they were operating without the annual permit that is required under Florida law. In addition to the overdue permit fee, the establishments were also required to pay an administrative fine.

HAZARD ANALYSIS CRITICAL CONTROL POINT (HACCP)

The Department continued to be actively involved in the training and implementation of HACCP programs in the food industry. HACCP is an internationally recognized, science-based, systematic, preventive, process control program to assure the production of safe food. It complements existing sanitation and good manufacturing practices programs. The program concentrates on preventing or controlling hazards that may occur during any stage of the food production or handling process. Since December 1997, federal and state food rules have required seafood processors to develop and follow a HACCP plan. During fiscal year 2000-2001, 203 verification inspections of seafood HACCP programs were conducted. The Department's HACCP unit coordinated with industry and other agencies to provide training and information.

Ensuring A Safe, Wholesome Food Supply

HACCP personnel continue to be involved with industry, academia, and regulatory agencies to provide training support and expertise as HACCP principles are applied in other food industries, such as fresh citrus juice processing, sprout growers, shell eggs, and retail establishments. In this past year, FDA published regulations that require fresh juice processors to apply HACCP principles in the production of juice for beverage use. The effective dates of that regulation are staggered from 2001 to 2004 based on business size. The Florida Department of Citrus has also published Chapter 20-49 of the Florida Administrative Code, entitled Standards for Fresh Squeezed Citrus Juices, as an interim measure requiring application of HACCP to the production of fresh juices until such time as the federal regulation becomes fully implemented. Training and other assistance is being provided to the small citrus juice processors.

Other Programs

The Department maintains an active role in managing food safety issues, including providing assistance in the investigation of foodborne illness; coordinating the collection of samples to monitor potentially unsafe foods; responding to consumer requests and providing educational materials; conducting informal hearings on administrative complaints; and interpreting rules to maintain an overall food safety program that addresses both local and national concerns.

FOOD AND RESIDUE LABORATORIES

The Department's Food and Residue Laboratories analyze samples collected throughout Florida for pathogenic bacteria, chemical contamination, pesticide residues, nutrition, food additives, and fraudulent formulations. These samples are collected from farms, through processing and distribution channels, to the retail point of purchase. All foods grown or manufactured inside or outside of Florida, including foreign countries, are subject to unannounced collection and analytical testing to assure adherence to the standards of wholesomeness, safety, freedom from contamination, and proper representation in labeling.

Pesticide Residues

One of the Department's major missions is to protect the public from unsafe foods by monitoring pesticide and other chemical residues for the enforcement of established tolerances. The Department also provides pesticide residue data for federal agencies to use in making dietary risk assessments. During the 2000-2001 fiscal year, the Department conducted 236,308 separate determinations for pesticide residues on 2,914 food samples, primarily fresh fruits and vegetables, including 1,143 samples for the USDA Pesticide Data Program. Sampling included 33 samples of fresh produce labeled "organic." The Department's monitoring program is one of the most comprehensive monitoring and enforcement programs in the nation and provides the residents of the state with valuable information on the safety of the food supply.

Samples are selected for the regulatory surveillance program based on the crop's propensity to accumulate pesticide residues in the consumed plant parts, and the toxicity and other related chemical and physical properties of the pesticide. Over 100 pesticides are detected using current multi-residue methods. About 1.9 percent of samples analyzed exceeded established tolerances and guidelines. Of the 33 violative samples analyzed in fiscal year 2000-2001, 13 samples were of

Ensuring A Safe, Wholesome Food Supply

imported produce. Pesticide residue violations led to 25 separate investigations of food adulteration incidents during fiscal year 2000-2001. Two incidents which resulted in extensive sampling and analyses involved imported produce. These investigations and the subsequent regulatory actions were conducted in cooperation with the FDA. State actions consisted of stopping the sale of the commodities available in Florida markets. Federal actions consisted of the detention of produce at the port prior to entry.



The first incident involved several types of eggplant imported from Honduras. Five separate lots were found to be adulterated with the pesticides methomyl and thiabendazole. A second incident involved rosemary imported from Mexico. A carbamate pesticide, carbaryl, was found in very high amounts on rosemary samples. As a consequence, more than 600 pounds of rosemary were removed from sale. One domestic incident involved the tropical fruit, guava. Illegal levels of the pesticides permethrin and carbaryl were found on guava samples at a packing house. The guava was traced to the source and these groves were placed under a cease harvest order until residues of the pesticides declined.

Other commodities involved in adulteration incidents were arrugula, bell peppers, bok choy, cilantro, cucumbers, epazote, kale, lettuce, okra, strawberries, and yellow squash. Sixteen of the incidents involved samples of Florida-grown produce.

Education and Training

Educational opportunities for laboratory personnel were emphasized in order to remain on the leading edge of science and technology. In July 2001, the Department hosted its 38th Annual Pesticide Residue Workshop, which attracted 150 pesticide residue scientists from the United States, Canada, Europe and Asia. In addition, the Department also hosted the Fourth Annual Food-Borne Pathogen Analysis Conference for microbiologists working in the identification of pathogens in foods. Eighty-four delegates attended this conference. These meetings allow Department chemists and microbiologists to learn more about the latest developments in technology through the knowledgeable speakers and interactions with experts from other agencies and nations.

Food Pathogens and Other Problems

The Department's food laboratory uses microbiological, chemical and physical methods to analyze foods processed or sold in Florida. These analyses help to ensure a safe and wholesome food supply by verifying the absence of adulterants, monitoring conformance with standards of safety and quality, and ensuring accurate representation in labeling and nutrition claims. Emphasis is placed on current and emerging food safety issues, such as microbiological contamination, unapproved food components, filth, chemical and heavy-metal contaminants, new food and food packaging technology, dietary supplements and other label claims, and natural toxicants.

During fiscal year 2000-2001, the Department performed analyses on 9,828 food samples, which represented a 14 percent increase of samples tested from the previous fiscal year. Ninety-one percent were found to be in compliance with all applicable food safety requirements. Under state

Ensuring A Safe, Wholesome Food Supply

programs, 9,168 samples were received from food inspectors, eight from the Division of Dairy Industry, 11 from the Division of Plant Industry, 262 from the Division of Agricultural Environmental Services, 90 from the Microbiological Data Program, and 54 from miscellaneous sources. A total of 235 samples were analyzed as a result of consumer complaints.

Food safety issues remain the major emphasis of the analytical program. With the continued identification of foodborne illness outbreaks, increased monitoring for pathogens in ready-to-eat-food is necessary. Analytical tests for pathogens included 1,540 tests for *Salmonella*, 2,540 tests for *Listeria monocytogenes*, 2,509 tests for *E. coli*, and 846 tests specifically for *E. coli* O157:H7. Targeted products for these analyses included ready-to-eat produce, processed meats, ground beef, cheese and sandwiches. As a result of outbreaks, the Department continues to monitor fresh orange juices, imported herbs, prepared salad greens, and fresh sprouts. The monitoring of bottled water, vended water, and ice accounted for 1,556 samples with 20 samples identified as adulterated by either microbiological or chemical contaminants.

Other areas of emphasis include monitoring juice products, honey, syrups and vanilla for fraudulent formulations or adulteration; ground meats for fat claims and species identification; and artificial colors in candy, sodas and bakery products. Bakery products are also monitored for insect filth and rodent contamination. A concern for mercury in fish as well as continual surveillance for ephedra products also is a part of the analytical program. In addition, the Department has done many surveys of commodities including organic produce and ready-to-eat foods. Allergen monitoring for undeclared egg, peanut and sulfite in food products continues to be a high priority in laboratory surveillance activities.

The Department conducted an extensive survey on the nutritional labeling of low-carbohydrate and diet foods. Misrepresentation of such products is of concern to persons following prescribed diet regimens and may be fatal to those who must restrict sugar intake. In the survey, 67 products were sampled and 57 were found to be violative for one or more nutrient claims, including misrepresentation of the amount of carbohydrates, sugar, fat, and protein contained in the food. All firms received notices of violation and six firms were assessed fines. The FDA also sent warning letters to three of the companies based on similar violations. The Department is continuing with follow-up sampling and surveillance of additional products.

Microbiologists from the Department's Food Laboratory participated in an AOAC collaborative study for *Salmonella* detection on the VIDAS, an automated enzyme-linked immunoassay system for the qualitative detection of *Salmonella* in food and food ingredients. This study was sponsored by bioMérieux and addressed utilization of the selective enrichment Rappaport Vassiliadis (RV) medium in place of selenite cystine (SC) medium that has hazardous properties.

The Department's Food Laboratory was one of only two state agriculture departments participating in an *E. coli* O157:H7 pilot program as part of the National Food Safety System. This pilot program enhanced laboratory quality assurance by providing additional proficiency test samples and instruction for ISO 17025 accreditation. The Food Laboratory continues to work on a quality manual and supporting documents in preparation for applying for ISO 17025 accreditation. This pilot gave the Department access to the national eLexNet data system on food pathogens, which allows real-time exchange of information concerning potential or suspected food supply problems. The Department's Food Laboratory has provided more data to this system than any other state program to date.

The new molecular section of the Food Laboratory has DNA fingerprinting capability for bacterial food isolates. DNA fingerprinting not only allows for source connection in foodborne outbreaks, but many times the fingerprinting aids inspectors in determining source contamination within a food

Ensuring A Safe, Wholesome Food Supply

processing system. DNA fingerprinting also enhances laboratory quality assurance by allowing suspected food pathogens to be compared with each other and with laboratory control strains. The molecular laboratory is working in close association with FDA to develop a more sensitive molecular analysis for *Shigella*, a pathogen that is difficult to characterize in foods.

The Department is one of eight state agencies that entered into cooperative agreements with the USDA to establish the Microbiological Data Program (MDP) during the past year. The purpose of the MDP is to develop reliable data on occurrence of *Salmonella*, generic *E. coli* and other pathogens on fresh produce commodities. Currently leaf and romaine lettuce and domestic and imported tomatoes are being analyzed for pathogens. The USDA manages this program and provides funding for sample collections and laboratory resources to conduct these analyses. This program will allow enhancements to the Department's laboratory facility as well as the introduction of more rapid and sensitive technology. The *Shigella* analysis being developed in the Department's laboratory will be added to the MDP pathogen screen as soon as possible.

MILK PRODUCTS

The Department ensures that dairy products purchased by Florida consumers are wholesome, produced under sanitary conditions, and correctly labeled. The Department regulates the production, transporting, processing, distribution and labeling of milk and milk products. It establishes standards for these products, whether they originate in Florida or other states.

The Department issues permits and conducts inspections for Florida dairy facilities. As of June 30, 2001, these facilities included:

- 219 dairy farms,
- 17 milk-processing plants,
- 85 frozen dessert manufacturers,
- 17 single-service milk container manufacturers,
- 33 milk distribution depots,
- 6 milk receiving, transfer, and wash stations.

In addition to its inspection program, the Department collects and tests samples from dairy farms and processing plants for compliance with established product quality standards. These samples are collected by field inspectors and tested in a Department laboratory for excessive bacteria and somatic cells and for the presence of antibiotics, added water, and other impurities.

The programs administered by the Department are part of a uniform national dairy sanitation program outlined in the Pasteurized Milk Ordinance (PMO) published by the U.S. Food and Drug Administration. Likewise, most of the dairy product quality standards enforced by the Department are part of the PMO or the Code of Federal Regulations. As in all



states, both the PMO and the relevant sections of the Code of Federal Regulation have been adopted in state statute or rule.

The fact that all states have adopted uniform regulations makes it possible to ship dairy products from state to state with a minimum amount of interstate regulatory interference. The interstate shipment of dairy products is coordinated through the Interstate Milk Shippers Conference, an organization that includes representation from FDA, the dairy processing industry, and all state dairy regulatory agencies.

FDA inspectors perform periodic spot checks in each state to ensure that the regulations in the PMO are being interpreted and enforced uniformly. A state that fails its FDA inspection can be denied the right to ship Grade A milk across state lines. FDA inspectors visited Florida twice in the past year. They inspected two farm groups, two processing plants, and four other facilities, rating them all satisfactory.

The Florida Dairy Industry

The average Florida dairy farm is large, milking an average of almost 700 cows. In spite of the hot and humid climate, Florida cows average about 15,675 pounds of milk per year or about six gallons per day per cow. Even though the state's 157,000 dairy cows rank it first in the Southeast and among the top 15 states nationally, Florida still imports approximately 25 percent of its milk, and the proportion of imported milk is growing. Florida's 17 Grade A milk processors include four Dean Foods plants, two Suisa plants, two Publix plants, and two Winn-Dixie plants.

Dairy Inspections

The Department's 13 field inspectors are stationed from Miami to Pensacola. They make regular visits to dairy farms and processing plants to inspect, consult, and collect samples. During the past year, dairy inspectors performed 2,299 inspections at dairy farms and plants in Florida. They also collected 17,216 samples of milk and milk products. They made 816 inspections of milk transport tankers.

Monitoring Antibiotics in Milk

The industry has established a rigorous program to monitor milk for contamination with residues of antibiotics commonly used to treat cows on dairy farms. During the year, 59,596 transport tankers representing more than 2.8 billion pounds of milk were checked for antibiotics in Florida. Only 17 (1 in 3,500) of these tankers were found to contain traces of antibiotics. All 17 loads were dumped. Nationally about 1 in 1,375 tankers of milk are found to have antibiotic contamination.

Checking the Weight of Milk Products

Florida recently participated in a national weighing program sponsored by the Federal Trade Commission. The Department has several inspectors trained to make official weights of milk products and has been monitoring weights of processed milk containers in Florida for more than 15 years. During the year, inspectors conducted 177 of these weight checks; 94 percent of the lots passed.

AQUACULTURE

The Department promotes the responsible use of molluscan shellfish (oysters, mussels, clams, and whole or roe-on scallops) through coordinated management activities that protect consumers and the environment. The well-trained and experienced environmental, inspection and laboratory staff ensure that shellfish are harvested, handled and processed in compliance with health regulations so that the shellfish are safe to consume. The Department is recognized nationally as a leader in shellfish water-quality management, processing, enforcement and education, and laboratory efficiency and effectiveness. The two major program activities conducted by the Department are 1) classifying and managing shellfish harvesting areas, and 2) licensing, inspecting, educating, and ensuring compliance of shellfish processing facilities.

Shellfish Harvesting Area Classification and Management Program

This program seeks to classify and manage Florida coastal waters for maximum use of shellfish resource, protection of public health, and promotion of a healthy coastal environment. The program is audited each year by the United States Food and Drug Administration (FDA) to ensure compliance with the provisions of the National Shellfish Sanitation Program.

A total of 38 shellfish harvesting areas are currently classified and managed statewide. Proposed rule amendments became effective on October 14, 2001 to classify waters of Alligator Harbor for a new shellfish harvesting area for High-Density Aquaculture Lease Site for hard clam aquaculture, and to reclassify portions of the Choctawhatchee Bay System to meet requirements of the National Shellfish Sanitation Program.

During fiscal year 2000-2001 the required annual update reports were completed for all 37 shellfish harvesting areas, and all 12 of the shellfish harvesting areas requiring a triennial reappraisal report were completed. The data and reports support current classification and management for all shellfish harvesting areas. During the annual program audit this fiscal year, the FDA determined that current sanitary survey, annual update, and triennial reappraisal reports have been completed as required for all shellfish harvesting areas in Florida. Ten shellfish harvesting areas were randomly selected, files for these areas were reviewed, and the areas were evaluated by boat. No program deficiencies were identified by the FDA.

During fiscal year 2000-2001, 721 sampling excursions were conducted to collect and analyze 20,397 water samples for fecal coliform bacteria, and there were a total of 460 closures and reopenings of shellfish harvesting areas.



There were no Shellfish Relaying Special Activity Licenses issued during fiscal year 2000-2001. The lack of industry relaying activity is the direct result of a lack of abundance of feral hard clams in the restricted and conditionally restricted classified shellfish harvesting waters of the Indian River Lagoon. A proposed rule amendment is under review to allow relaying of hard clams from aquaculture leases impacted by the Florida "red tide" (marine biotoxin) on a regional basis rather than on a statewide basis.

Shellfish Processing Facility Program

This program seeks to ensure wholesome shellfish products through inspection, education, and enforcement of state regulations and national guidelines. The program is audited each year by the FDA to ensure compliance with the provisions of the National Shellfish Sanitation Program.

During fiscal year 2000-2001 the Department issued 124 Shellfish Processing Plant Certification Licenses. A total of 636 regulatory processing plant inspections were conducted: 494 were routine while 142 were other types of inspections such as complaints, pre-operations, standardizations, and re-inspections.

Based on fiscal year 2000-2001 inspection results, 58 warning letters were issued. Action was taken to destroy shellfish products when inspections found them to be adulterated, contaminated, unwholesome, mislabeled, or exceeding product shelf life.

Amendments to Chapter 5L-1 of the Florida Administrative Code proposed in 2000-2001 have not yet become effective. Highlights of these amendments include charging fees for certification and imposing fines for noncompliance. Implementing these amendments into the Florida Administrative Code should provide additional revenue for operating expenses while also increasing compliance with the regulations.



Conserving The Natural Environment

BEST MANAGEMENT PRACTICES

The Department continued with implementation of the 1994 nitrogen Best Management Practices (BMPs) program. Due to the diversity of agricultural commodities and production areas in Florida, the Department has prioritized the development of BMPs for those commodities and/or regions where ground water protection concerns are high.

The Department continues to receive letters of intent from growers whose land has been placed under Best Management Practices adopted through the nitrogen BMP program representing the various crops including citrus, forage grasses, and leatherleaf ferns.

In fiscal year 2000-2001, the Department completed the evaluation of five research proposals for additional nitrogen BMP development from the University of Florida and the Florida Agricultural and Mechanical University. The BMP Technical Group, consisting of growers and representatives of industry and academia, assisted the Department with the selection of these research proposals funded through supplemental fees on fertilizers containing nitrogen. A total of 50 contracts have been awarded thus far under the program.

Complementing its traditional regulatory role, the Department also provides technical, logistic, and rule making support in the development, implementation, and assessment of BMPs for nitrogen. These voluntary BMPs can provide Florida's growers with practical production methods that are consistent with goals for ground-water quality protection.

Areas in which significant progress was made toward BMP development are highlighted below.

Middle Suwannee River Basin

This project is the result of a unique public/private partnership among 24 members working together to protect ground and surface waters in one of Florida's most valuable and unique watersheds. The Suwannee River Partnership includes, in addition to the Florida Department of Agriculture and Consumer Services, the U.S. Environmental Protection Agency, the Florida departments of Environmental Protection, Health and Community Affairs, the University of Florida Institute of Food and Agricultural Sciences, the U.S. Department of Agriculture Natural Resources Conservation Service, the Suwannee River Water Management District, local Soil and Water Conservation Districts, county government, Florida Farm Bureau Federation, and numerous agricultural associations. The Department continued its leadership role in assuring that progress toward achieving the goals of the 24-member Suwannee River Partnership was sustained. The public/private partnership, initiated in 1999, is an example of a voluntary incentive-based program approach to achieving necessary environmental benefits on a watershed scale.

Over the past year the Department played a central role in the initiation of a five-year study to examine the impact of existing nutrient and irrigation practices on ground water quality in the Middle Suwannee River Basin and to identify improved practices for implementation by growers in the region. During fiscal year 2000-2001, proposed BMPs were implemented on a 160-acre, center-pivot irrigation plot to determine which practices associated with potato production are sufficiently protective of ground-water resources. Results indicate that considerable improvements are warranted regarding the traditional management practices associated with nitrogen and potato production on similar soils. Similar studies will continue to refine prospective BMPs for potatoes and other crops associated with the traditional cropping systems in the region. This effort will provide growers in the region with access to practices that are protective of ground-water resources as demonstrated in field research.

Effective May 1, 2001, the Department also adopted an interim measure for forage grasses (Bahagrass and Bermudagrass) grown within the Suwannee River Water Management District. Forage grass production represents the largest agricultural commodity grown in the basin with the exception of forestry. The interim measure encourages forage growers to follow the nitrogen recommendations published by the University of Florida Institute of Food and Agricultural Sciences.

Ornamental Industry

The Department worked closely with the ornamental industry to develop and adopt an interim measure for application statewide, as provided for in the Nitrogen BMP Program, which consists of the best information available regarding the management of nitrogen and irrigation inputs. The industry has fully supported this effort and the Department has begun the process of conducting informal grower meetings around the state to build consensus on draft language prior to initiating rule making.

St. Lucie Estuary

The Department is coordinating a multi-agency task force in the development of water quality-based BMPs for citrus growers in the St. Lucie River and estuary. The Division of Agricultural Environmental Services, in cooperation with the Office of Agricultural Water Policy, has developed a mechanism to identify and implement feasible BMPs in the short term, coupled with the identification of specific research needs to develop improved BMPs for the long term. A manual of interim BMPs has been published and distributed in the basin to provide citrus growers with suggested practices to address pesticide and nutrient management, water management, erosion control, and aquatic weed management in an effort to reduce offsite migration of contaminants. The Department is working toward adopting the BMP manual by rule, which will extend several important regulatory incentives to participating growers in the region.

The Department engaged in planning for the future transfer of the Nitrogen BMP Program to the Office of Agricultural Water Policy. The Department anticipates continuing participation in the program by providing technical assistance for BMP-related activities.

Lake Okeechobee Watershed

The Department, working in close coordination with the Department of Environmental Protection, the South Florida Water Management District and area growers, is in the initial stages of developing and implementing a comprehensive BMP program dealing with dairy, cow/calf, citrus and vegetable producers to reduce non-point source water quality impacts. Detailed evaluations of all dairies in the watershed have been completed and the Department will soon execute contracts with appropriate vendors to develop dairy-specific plans to control nutrient movement off each site. In addition, the Department is pursuing the adoption, by rule, of BMP manuals for cow/calf and citrus producers. These efforts are authorized by the 2000 Legislature passing the Lake Okeechobee Protection Program. Development and implementation of effective BMPs is a critical component in the overall restoration of Lake Okeechobee and Florida's Everglades.

Scientific Evaluation Section

The Department reaffirmed its commitment to pesticide safety by evaluating the risks posed by pesticides for human health and the environment and by mitigating unacceptable risks. During the fiscal year, a total of 155 new and existing pesticide registrations were subjected to evaluation and management reviews by staff. Major program areas this year included registration technical reviews, ground water and surface water protection, and endangered species protection. An additional area of interest involved a review of potential impacts on air quality associated with the use of methyl bromide as a soil fumigant.

Registration Technical Reviews

A total of 49 special category registrations (new active ingredients, significant new uses, special local needs, and experimental use permits) were issued this year as a result of the Department's participation in Pesticide Registration Evaluation Committee's technical review process. Several improvements were made in the registration review process, including refinement of computer modeling scenarios for the fate of pesticides under specific Florida conditions (using PRZM-EXAMS) and probabilistic ecological risk assessment for ground and surface water assessment. Staff attended training programs to upgrade and maintain computer skills. All reviews are now maintained in an

electronic format for easy tracking and retrieval. A database of adverse effects and compliance investigations was updated, and archived data can now be entered into databases to support registration reviews.

Department scientists evaluated the environmental fate and effects of 18 products being submitted this year to the U.S. Environmental Protection Agency for emergency-use exemptions. Many of the methodologies recently developed for special-category registrations were used to facilitate the review process for these emergency exemptions. None of the exemptions passing the Department's review were subsequently denied federal approval.

The Food Quality Protection Act (FQPA) of 1996 amended the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food Drug, and Cosmetic Act (FFDCA). These amendments fundamentally changed the way pesticides are regulated. The requirements include a new safety standard — reasonable certainty of no harm — that must be applied to all pesticides used on foods. This tougher standard for pesticides also now requires consideration the public's overall exposure through food, water, and in home environments when making risk determinations.

Recognizing pesticides registered in the past may not meet today's current safety standards, the EPA is reviewing and reregistering older pesticides, taking action to reduce risks where appropriate. Before allowing a pesticide to be used on a food commodity, EPA sets limits on how much of a pesticide may be used during growing and processing. The Department's inspectors monitor foods distributed in Florida to ensure these limits are not exceeded.

By 2006, EPA must review all old pesticides to make sure that their use on food meets the new, tougher safety standard. At the same time, the Department is working to assure Florida growers have access to effective alternative pesticides in those instances it is determined products uses must be canceled under the FQPA. The Department is also actively involved in providing the EPA FQPA Advisory Committee with recommendations to help assure existing critical uses are supported and adequate time is provided to Florida growers to evaluate and adopt new pest control strategies.

Ground Water Protection

The Department's goal of managing pesticides to avoid ground-water contamination was enhanced by several efforts:

- Expansion of the Lake Wales Ridge Monitor Well Network — A joint project under way by the Department, the U.S. Geological Survey, and the Southwest Florida Water Management District, the network was enhanced this year by the Department's installation of nine new monitor wells. The monitor well network allows the Department to evaluate the relationship between agri-chemical use and groundwater quality in a geographic area that is highly susceptible to contamination. The shallow wells are sampled quarterly to assess for temporal trends in ground-water residue levels. The new wells will help to fill important information gaps for the regional network and to determine whether current agri-chemical management practices are adequately protective of ground water quality.
- Middle Suwannee River Basin — The Department continued to provide technical support for a study examining the effect of agricultural management practices on nutrient levels in shallow ground water. Department staff collected samples biweekly from 13 monitor wells and analyzed the samples for nutrients. A field audit was conducted to assure compliance with quality assurance requirements. In addition, quarterly sampling was conducted to test these monitor wells for the presence of pesticides. A report summarizing the results of the pesticide test is anticipated next year.

Conserving The Natural Environment

- **Ridge Citrus Network** — The Department assisted the University of Florida by sampling its network for nutrients in April 2001.
- **Aquaculture** — A field sampling protocol was developed for the Florida Aquaculture Water Quality Study. Sampling of monitoring wells continued at 10 sites that were developed to evaluate the effects of aquacultural practices on water quality.
- **Site investigation** — Staff performed a direct-push groundwater investigation in Highlands County. Groundwater samples were collected from 21 temporary monitoring locations within a neighborhood at which elevated levels of an herbicide had been reported for potable well samples. The effort involved coordination among the Bureau of Pesticides, the Bureau of Compliance Monitoring, the Department of Health, and the Department of Environmental Protection. A report on findings from this investigation will be prepared in October 2001.
- **Responses to U.S. Environmental Protection Agency (USEPA) registration inquiries** — As the USEPA evaluated selected pesticide products for re-registration and conditional registrations, the Department was called upon to provide information on the occurrence of those pesticide residues in ground water. This year, as a result of the Department's innovations in water quality data acquisition and retrieval, the state was able to respond promptly and accurately to several such federal inquiries and to support the ability to manage such pesticides in Florida.

Surface Water Protection

This year, as the Department concluded a 12-year field study on pesticide residues in surface water, staff participated in a new cooperative effort to evaluate the effects of citrus BMPs on surface water quality in the St. Lucie Estuary. The long-term field study evaluated the water quality impacts as a flatwoods ranch was converted to a modern citrus operation. Nutrients and pesticides were measured in surface water at numerous sampling points on the site, with sampling scheduled on a quarterly basis. The project revealed seasonal trends in some pesticide residues on site, but more importantly, it demonstrated that off-site migration of agri-chemicals can be controlled with a combination of water retention structures and progressive management systems. A final report will be published next year.



The new surface water field project is located in the Indian River Citrus Area of the St. Lucie River watershed.

Throughout the year, the Department provided technical support for an integrated effort to implement a comprehensive program of procedures and practices that will enhance citrus production while protecting the quality of water resources. Selected activities in which the Department participated included:

- Development and installation of two projects in a demonstration citrus grove which will assess the effects of different herbicide band widths on the off-site migration of nutrients, metals and pesticides.
- Participation in an interagency technical advisory committee to review scientific study proposals and resulting data that relate to the effectiveness of implemented BMPs.
- Development of a proposal to fund an intensive sampling program in Ten Mile Creek, the results of which will be used to assess the effectiveness of BMPs implemented as a result of the adoption

of the Citrus BMP Manual. Data will also be used to demonstrate the validity of a surface water study decision support system being developed for registration of pesticides in Florida and to evaluate risk to aquatic species posed by pesticides and metals detected in surface water during the study period.

Air Quality

A data call-in for the soil fumigant, methyl bromide, resulted in fate and transport information as well as toxicology data submitted by the Methyl Bromide Industry Task Force in support of evaluation of impacts to air quality. A review of these data began, and the Department planned to explore health-based air-quality criteria in coordination with the Florida Department of Health. Several staff meetings were held to become familiar with the working of FUGACITY model, its components and input requirements. The EQC model for level I, II, III and IV evaluations for air, soil, ground water, surface water, and biota was examined to develop the recommendations for the future course for pesticide evaluations for registration purposes. A recommendation memorandum was prepared in May 2001 for group review and evaluation.

Endangered Species Protection Program

The Endangered Species Protection Program (ESPP) coordinator identified and prioritized key tasks to revitalize the program. One of these initial tasks was assembling and prioritizing the previously developed Endangered Species Protection Plans that were most amenable to completion and incorporation into County Bulletins within the near future. These plans were originally developed by the Endangered Species Task Force, a group of experts from government, industry and non-profit organizations in Florida charged with developing the plans and providing expertise in implementing the program. This information will be accompanied by GIS maps generated using endangered species occurrence data developed by the Florida Natural Areas Inventory (FNAI) and land cover (habitat) data developed by the Florida's Water Management Districts.

The first draft County Bulletin for Gadsden County has been completed and is being reviewed by staff within the Department. This is the first Bulletin to be completed that incorporates the GIS maps generated using the FNAI database. The Gadsden County map includes information and habitat maps for three endangered plant species: Florida torreya, fringed campion, and Chapman's rhododendron. Once the internal review is completed, the draft County Bulletin will be sent out to stakeholders groups, the Division of Forestry, and the local U.S. Fish and Wildlife offices in Jacksonville and Panama City for review. Finally, EPA headquarters will be able to review and coordinate review with U.S. Fish and Wildlife Service once the local reviews are completed (or in conjunction with the review by the local offices).

County Bulletins for Jackson, Liberty, and Gulf counties are near completion and will be finalized once the internal review of the Gadsden County bulletin is completed. In addition, information and habitat maps are being compiled for the Okaloosa darter, which will be incorporated into the Okaloosa and Walton County Bulletins. These and other County Bulletins including ones for Jefferson, Volusia, Dade and Monroe counties are to be completed in the near future.

Pesticide registration guidelines for Florida are currently being revised to incorporate new risk assessment methodologies. The ESPP coordinator is responsible for drafting new ecological assessment guidelines for pesticide registration that will be used to assess ecological impacts of pesticides in Florida.

Pesticide Registration

The Pesticide Registration Section registers pesticides that are distributed, sold or offered for sale in Florida. During this fiscal year, a total of 13,421 pesticide brands were registered for sale and distribution in Florida. Approximately \$3.1 million in registration fees were collected to support the Department's pesticide programs.

Included in this total are special registration actions such as experimental use permits, special local need registrations, and new active ingredient and significant new use registrations that are processed, reviewed and issued through this office. These special registrations are reviewed by the Department and other affected state agencies through the Pesticide Registration and Evaluation Committee (PREC). The PREC is responsible for advising the Department of risks posed by registration and possible actions for reducing risks to acceptable levels. The Pesticide Registration Section's professional staff serves as both liaison and active participants in the PREC process. This fiscal year, 18 special local-need registrations, four experimental-use permits, eight significant new use, and 19 new active ingredient registrations were reviewed and issued.

Florida's diverse agricultural system, mild climate, and tourism and trade activities make the state particularly susceptible to the introduction and establishment of pests. When pest pressure reaches non-routine and emergency proportions and no pesticide is registered for the pest, the Department may submit petitions to the U.S. Environmental Protection Agency for emergency exemptions from registration. Pest emergencies often involve introduced exotic pest species with the potential to inflict millions of dollars of losses in affected crops and commodities. Exemption requests frequently seek the use of new, low-risk chemicals that may actually decrease the total use of chemicals on the affected crops through their compatibility with integrated pest management programs and the elimination or reduction of repeated applications of broad-spectrum pesticides of limited efficacy.

The approval of emergency use exemptions is a critical part of the Department's efforts to assure the long term viability of Florida's specialty crop producers and continued economic development. The process provides important crop protection tools that maintain Florida's competitiveness in key domestic and international markets.

In fiscal year 2000-2001, the Registration Section evaluated 18 emergency exemption petitions. Exemptions were issued to control silverleaf white flies, gall midges, cercospora leaf spot, lychee webworms, diaprepes weevils in citrus, and greasy spot. For the third consecutive year, the section played a key role in coordinating among beekeepers, apiary inspectors and field staff of the U.S. Department of Agriculture in obtaining the use of the pesticide, coumaphos, to control the small hive beetle and varroa mite in honeybee colonies. This exemption was critical because no other pesticide alternatives are available to control these devastating pests in beehives. Finally, as a precaution to prevent the establishment of foot-and-mouth disease in Florida, the Department issued a crisis declaration and then followed with a quarantine exemption for the use of disinfectants. The Registration Section's professional staff coordinated the efforts of both state and federal agencies to ensure this protection for Florida's farmers and other interests.

Methyl Bromide

Methyl bromide is a broad spectrum conventional pesticide that controls insects, nematodes, fungi, and weeds. Eighty percent of methyl bromide use is in soil fumigation for important Florida crops, such as tomatoes, strawberries, and peppers. The remaining twenty percent is used to fumigate commodities in storage, or to fumigate structures.

The amount of methyl bromide produced and imported in the U.S. is being reduced under international agreement until the phaseout date of January 1, 2005. In 2001, the amount produced and imported was reduced to 50% of 1991 historical baseline levels. In 2003, it will be reduced to 30% of that baseline. In 2005, the phaseout will be completed. Quarantine and preshipment uses of methyl bromide are exempt from the phaseout.

Both the U.S. and the parties of the international agreement recognize that economically and technically feasible alternatives may not be available for all currently registered uses of methyl bromide by January 1, 2005.

For this reason, the international agreement provides for a Critical Use Exemption (CUE) to the phaseout. Those users of methyl bromide with no alternatives can apply for this exemption. However, methyl bromide users must be able to demonstrate active pursuit of alternatives to justify a claim that no alternatives are available.

The Department is working with EPA other appropriate federal, state and local agencies, including the U.S. Department of Agriculture, and affected stakeholders to develop the CUE process. The CUE process includes opportunities for information sharing and stakeholder involvement in its development which includes creation the CUE application. It is expected that an effective CUE process ensuring that methyl bromide can be produced or imported for critical needs in the U.S. will be established in 2002.



Pesticide Laboratory

To support compliance investigations and environmental monitoring activities, the Department's Pesticide Laboratory analyzes a variety of official samples, including formulated pesticide products, pesticide application tank mixes, and environmental samples. In accordance with Chapter 487, Florida Statutes, formulation analyses are performed for label guarantee, and tank mix samples are performed for the correct percentage of active ingredient. Both formulated product and tank mix samples are screened for contaminants of other pesticides to ensure product safety and accuracy. A total of 415 formulation and/or tank mix samples were analyzed, requiring 3,659 sample determinations to verify that the correct percentages of guaranteed active ingredients were within allowable tolerances. The laboratory detected a 1.6 percent violation rate of label guarantee.

In support of registration and technical assessment activities, 1,989 environmental samples requiring 48,925 determinations were analyzed. The laboratory also responded to a wide variety of method development requests during the past year. Method development work for individual parent compounds and metabolites was conducted in a variety of environmental matrices for avermectin, fipronil, hexythiazox, pymetrozine, thiamethoxam, and thiophanate-methyl. In addition, the laboratory played a role in assisting eradication efforts during the Oriental fruit fly and the West Nile virus infestations. Both of these projects utilized Naled as the pesticide for control of these pests. The laboratory developed methods for the analysis of the formulated product, tank mix, and environmental matrices.

In an effort to ensure a high quality of analysis, the laboratory analyzed 1,481 quality control samples, requiring 9,461 determinations. Quality assurance samples were analyzed for method development and validation as well as for method quality control.

Conserving The Natural Environment

The laboratory increased its annual sample output and total sample determinations from 1,667 samples in fiscal year 1999-2000 to 3,885 samples in fiscal year 2000-2001, and from 35,147 sample determinations to 62,045 sample determinations, respectively. At the same time, significant productivity gains were made with regard to quality assurance and the overall average sample turn-around time was reduced from 102 days in fiscal year 1999-2001 to 57 days in fiscal year 2000-2001. Further improvements in productivity and quality assurance are expected as the Pesticide Laboratory implements a laboratory information management system and applies for accreditation under the ISO 17025 standards for quality assurance.

Pesticide Certification and Licensing

The Pesticide Certification and Licensing Program helps ensure a safe food supply, healthy environment, and the protection of workers and the public through training and competency testing of pesticide users. The Department issued or renewed 2,712 pesticide applicator licenses and 633 pesticide dealer licenses during the fiscal year. Department staff coordinated, participated in, or monitored 29 training programs throughout the state, giving presentations on pesticide laws and regulation, licensing requirements, and procedures relevant to pesticide use.

A new computer licensing system was implemented in fiscal year 2000-2001 that provides for improved license documents and enhanced tracking of exam and licensing information. License files were reorganized and a new system implemented to facilitate document filing and retrieval.

Aldicarb Notification Program

The Department processed 4,076 aldicarb (Temik) application notifications and tracked the application of aldicarb to 334,040 acres of citrus, 36,205 acres of potatoes, 22,758 acres of cotton, 12,181 acres of peanuts, 117 acres of soybeans, and two acres of pecans in connection with the ground water protection program for this product. Working with the aldicarb registrant, Aventis Crop Science, an electronic process was developed and implemented to facilitate filing notifications of intent to apply aldicarb. This electronic process is available to licensed pesticide applicators on the Internet at www.temikintent.com.

Worker Protection Program

The Department, in cooperation with various organizations in the agricultural community, continues to play an active role in the implementation of the Worker Protection Standard (WPS) training and outreach activities. In fiscal year 2000-2001, 220 people were certified as trainers for agricultural workers and pesticide handlers according to WPS guidelines, and more than 6,400 EPA worker and handler training verification cards were distributed to these trainers. The Department distributed more than 8,500 pieces of WPS literature to various agricultural institutions and organizations. The Department strives to reach the diverse immigrant populations of Florida, and many of the outreach materials distributed are in languages other than English, including Spanish, Haitian-Creole, Cambodian, Vietnamese and Korean.

The Department is currently working on a new website to enhance its WPS training and outreach capabilities by providing concentrated source of information for users and a comprehensive list of links for those needing more information.

The Department continues to represent Florida at national WPS meetings and strives to stay informed of WPS issues in order to sufficiently address the inherent challenges of the regulation. De-

partment staff members play an active role in local statewide meetings to help provide interpretive guidance to employers to facilitate compliance.

Pesticide Compliance Section

The Department investigated 39 complaints involving alleged violations of the worker protection standard as compared to 54 from the previous fiscal year. Of the 39 investigations, 33 were re-inspections to verify compliance with the WPS from actions taken in the previous fiscal year. In addition, the Department conducted a total of 369 worker protection inspections, as compared to 350 in the previous year.

The Department conducted 2,499 pesticide inspections at users, dealers, distributors, and manufacturers during the fiscal year. These inspections resulted in 438 enforcement actions. There were 498 samples collected for pesticide formulation and pesticide residue analysis. The Department investigated 406 complaints and referrals involving violations, such as improper pesticide use, adverse environmental effects, and distribution of unregistered products. Sixty-nine fines were issued for violations of the pesticide laws during the fiscal year and \$90,900 collected over this same reporting period. The Department inspected 72 wells that apply chemicals through irrigation water to assure adequate ground water protection devices had been installed. These programs help ensure pesticides are properly registered, labeled and sold only to those individuals who have been trained in their use.

Operation Clean Sweep

In fiscal year 2000-2001, the Florida Department of Environmental Protection (DEP) received an appropriation of \$300,000 from the Solid Waste Management Trust Fund to continue Operation Clean Sweep to collect and dispose of unusable pesticides. The program was coordinated by the Florida Department of Agriculture and Consumer Services, DEP, Department of Community Affairs, the University of Florida's Institute of Food and Agricultural Sciences, and pesticide user groups. Collection and disposal operations were conducted in 10 counties: DeSoto, Hardee, Highlands, Hillsborough, Lake, Manatee, Okeechobee, Polk, St. Lucie and Volusia. A one-day collection was held in each county, and a total of 170,929 pounds of canceled, suspended, and unusable pesticides material was collected from 273 participants in the first seven collections, and 64,175 pounds from 101 other participants. A grand total of 235,644 pounds of canceled, suspended, and unusable pesticides were collected at a cost of \$270,033. Travel expenses, publicity costs, and staff time of participating agencies and pesticide user groups were provided as in-kind contributions to maximize the funds available to pay for collection. As a result, 100 percent of the funds available were used to pay for material collection and disposal.

Pest Control Section

During fiscal year 2000-2001, the Pest Control Section continued to consolidate and streamline its operations. An additional field supervisor position was established to provide better communication and support with field inspectors. An additional assistant enforcement coordinator position allowed the section to process administrative complaints more efficiently.

The Document Issuance office issued and renewed 3,510 pest control business licenses, 5,812 certified operator's certificates, and 40,901 employee identification cards. Additionally, 1,294

Conserving The Natural Environment

written examinations were administered, and 3,010 limited governmental/private and limited lawn maintenance certificates were issued or renewed.

The Bureau of Entomology and Pest Control investigated 701 formal consumer complaints and conducted 1,527 licensed business inspections. Enforcement activities resulted in the issuance of 398 enforcement actions and the imposition of \$110,700 in fines.

The Enforcement office continued operating the "special enforcement emphasis" campaigns, begun last year, which involve concentrated enforcement efforts on subterranean termite pretreatments; tent fumigation aeration and clearance procedures; and limited lawn maintenance applicators throughout the state.

Mosquito Control Section

The Mosquito Control Section provides technical assistance to all counties, communities and private developments that operate a mosquito control program. It is estimated that as many as 400 programs may be in operation throughout the state. The annual combined budget of the 54 organized mosquito control districts operating under Chapter 388, Florida Statutes, is approximately \$80 million. These districts received approximately \$2.2 million in state aid from the Department during the year.

The Mosquito Control Section completed 103 routine inspections and investigated 12 complaints about mosquito control activities. Additional federal funding provided for an additional investigator for the program. There were 114,100 acres treated for dog flies and 5,818 acres treated for mosquito control activities. There were five public health pest control certification training sessions provided, resulting in 294 new certificates being issued. There are a total of 1,239 public health pest control licensees.

The Vector Control Management System implementation has continued to expand to 44 licensees. These districts' mosquito control reporting activities are now being transmitted to the Department electronically, resulting in considerable savings of time and money.

FORESTRY PROGRAMS

The Division of Forestry's mission is to protect and manage Florida's forest resources through a stewardship ethic to ensure these resources will be available for future generations. Four core programs embrace this mission: 1) wildfire prevention, detection and suppression; 2) forest land management; 3) technical assistance for private landowners; and 4) the Forestry Youth Academy.

New Initiatives

The Division of Forestry is working on a state-of-the-art interactive wildland firefighter-training simulator. This will be a heads-up display that simulates operating an initial attack firefighting tractor while making decisions based on variable inputs from instructors. The Wildfire Suppression Training System (WSTS) will be capable of training both new and experienced firefighters and should be completed in fiscal year 2001-2002.

The division has just completed production of the interactive "Florida Wildfire Prevention" CD-ROM. Distribution and training for 10,000 teachers should be completed by January 2002. The package is designed to teach basic wildfire prevention and mitigation education and comes with a teachers guide and supplemental materials for fourth- to eighth-grade students, which prepares them for standardized tests.

FOREST PROTECTION

As stated in Chapter 590, Florida Statutes, the Division of Forestry is responsible for wildfire prevention, detection, and suppression in Florida.

More than 10,000 media contacts were made as part of the division's wildfire prevention campaign through the use of wildfire prevention strike teams and the wildfire mitigation specialists. Florida's FIREWISE Communities program led the nation by conducting more workshops than any other state. A decrease in the number of human-caused wildfires is evidence that the increased educational prevention and mitigation efforts are paying dividends. Another encouraging statistic is that in fiscal year 1997-1998 there were 330 structures damaged, while only 278 were damaged in fiscal year 2000-2001.

As a result of additional equipment and positions provided by the 1999 legislative session, the division was able to place increased emphasis again this year on hazard fuel reduction in wildland/urban interface areas. Fire management teams assisted the division's districts and forestry centers with prescribed burning and mechanical hazard fuel reduction on approximately 1,500 acres, to protect 3,500 homes, valued at over \$248 million.

The division also got fully under way at the Florida Center for Wildland Fire and Forest Resource Management Training. Two classes of Basic Fire Control Training were held for 85 new students, who received certification as Wildland Firefighters in Florida. A total of 914 persons, both department and cooperator, completed Incident Command System (ICS) training, from basic ICS to various specialized ICS position training. In addition, basic fire suppression training was provided to 120 members of the Florida National Guard at Camp Blanding.

The division administered the Volunteer Fire Assistance Grant Program to volunteer fire departments that serviced communities with a population of 10,000 or less. Approximately \$270,000 was awarded to 101 fire departments. This was a matching fund, which enabled the fire departments to purchase approximately \$540,000 of equipment and supplies.

During fiscal year 2000-2001, the division greatly increased the amount of Federal Excess Personnel Property (FEPP) due to the helicopters that were acquired. The Department now has over \$100 million in FEPP inventory.

The last fiscal year saw the division come closer to its goal of seven medium helicopters by taking delivery of two renovated SuperHuey aircraft and one additional B-209. The fleet now has three Hueys and three Cobras that are supplemented by two OH-58 light helicopters. One additional SuperHuey will be delivered in fiscal year 2001-2002. The aircraft fleet continued to increase its number of hours flown, primarily for wildfire detection and control. Fixed-wing aircraft flew a total of 4,241 hours, and helicopters flew 568 hours.

The division is also in the process of completing a dynamic fire risk assessment system for the entire state using recent advances in GIS technology. This system will model and map wildfire fuels, as well as show where cooperative efforts between the state and public and private landowners are needed to focus fuel reduction work. This will be the most in-depth analysis done to date. Other states are already working to secure funding to copy this system (when it is completed) for the southeastern region of the nation.

The division is also progressing with the Fire in Florida's Ecosystems program, which provides fire ecology and prescribed-fire instructional materials to educators around the state. Each teacher is trained to use the educators' guide, student workbook, videos, posters, other supplemental materials, and the interactive "Burning Issues" CD-ROM. The hands-on activities are designed to provide fourth- to 10th-grade students with science, math, language, social, and visual arts experiences that

Conserving The Natural Environment

also prepare them for standardized testing. This year, 800 educators have been trained. An additional 400 will be trained by February 2002.

NATURAL RESOURCE MANAGEMENT

Natural resource management is accomplished through the Division of Forestry's natural resource programs on state forests and other state lands, land acquisition, and technical assistance to private landowner's programs.

The division employs multiple-use principles to ensure sustained and optimum productivity of Florida's 31 state forests encompassing 897,000 acres. The most current scientific knowledge is used to ensure good stewardship and the practice of silviculture based on sound ecological principles.

The division takes a lead role in the management of an additional 222,000 acres of public land through special agreements with such public entities as the Department of Environmental Protection, Water Management Districts, and the Fish and Wildlife Conservation Commission.

Contracts worth approximately \$4.4 million were prepared to acquire state forest acres through the agency's in-holding and addition program. Nearly 62,000 acres were added to the state forest system during the year.

All of these lands are managed to provide as many compatible uses and benefits to the public as possible while still providing protection for threatened or endangered species of plants and animals. The public recreational opportunities on these lands include fishing, hunting, hiking, picnicking, canoeing, camping, swimming, bird watching, bicycling and horseback riding. Approximately 570,000 visitors participated in these activities during the year.

The management of state forests generated revenues of approximately \$6,083,000 during the year, with an estimated \$5,285,000 coming from the sale of timber and the remainder primarily from recreation fees charged by the division.

The division pays 15 percent of the revenue from state forest operations to the counties in which these forests are located. The revenue returned to counties for fiscal year 2000-2001 totaled \$912,000. There are substantial direct and indirect benefits provided to local governments from the management of these lands.

Technical Assistance

The Division of Forestry provides technical assistance to help private landowners and communities make informed decisions to develop and achieve their objectives in forest land management.

During fiscal year 2000-2001, the division offered 30,812 technical consultations to private landowners, primary and secondary wood-using industries, and local governments through its 37 county foresters. County foresters prepared forest management plans for 775 landowners on 28,297 acres, and advised 1,661 landowners on tree-planting projects that reforested 50,341 acres.

Florida's Forest Stewardship Program is part of a national initiative to encourage private forest landowners to manage their properties for multiple-use. Through the Department's leadership, 113



forest stewardship plans were completed on 23,692 acres. Six landowners were certified as Forest Stewards during the year.

The division's Andrews Nursery produced and sold 32 million bare root pine seedlings and 3.7 million containerized pine and wiregrass plants to 1,609 Florida customers, producing more than \$1,931,397 in revenue.

The division administered \$1.47 million in federal funds through urban and community forestry grants that were provided to non-profit organizations, local governments, and educational institutions for tree planting and other projects that enhance communities' ability to care for their public tree resources.

Additionally, the division certified one new community as Tree City USA and 21 cities as Tree City USA Growth Communities. There are now 119 Florida cities designated as Tree Cities.

FIELD OPERATIONS

The division's forestry programs are implemented by its Field Operations staff located in 15 district offices across the state. These district offices were recently grouped into four regions, each under a deputy chief of operations. The current organization consolidated manpower, resources and equipment to provide a more responsive and comprehensive approach to land management and fire control statewide.

FOREST RESOURCE PLANNING AND SUPPORT SERVICES

The Bureau of Forest Resource Planning and Support Services (FRPSS) has four primary support functions: planning, construction, information technology, and equipment. Additionally, FRPSS continues to take a panoramic view of the entire division's mission and operations in order to provide the support services required to protect 25 million acres of forest and serve a half-million annual state forest visitors. All four functions are vital to the readiness of the Division of Forestry to fulfill its wildland firefighting, prevention, and land management responsibilities for saving lives and property.

Planning is focused on emergency response, wildfire prevention, detection, suppression, and land management, and prepares the division for rapid and efficient execution of its responsibility. Many times the actions of the division are carried out under adverse circumstances, and the plan must always enhance those actions. The Planning Section collects data to prepare and support the Long-Range Program Plan, annual report, and interim reports. Ongoing reviews of county comprehensive plans and clearinghouse documents are also conducted by this section.

Another vital function is fulfilled by the Construction Section, which provides critical planning for and oversight of the division's fixed capital improvement, construction, and maintenance programs. This function ensures that facilities are adequate to meet firefighting and forest management needs through the construction of new facilities and inspection and maintenance of existing facilities. During fiscal year 2000-2001, an estimated 30,000 square feet of building space was constructed at a capital cost of approximately \$2 million. A typical project is the new Little Big Econ State Forest Headquarters completed in early 2000 at a cost of \$393,000. This complex contains state-of-the-art technology capabilities for firefighting and forest management, as well as being designed for public use and recreation. The on-site headquarters, constructed to complement the surroundings and

Conserving The Natural Environment

environment, provides efficient management and utilization of one of the state's newly acquired forests, while serving the people of east-central Florida.

Information technology (support of computers and telecommunications) is a third FRPSS function, and one that is vital during emergency response and essential for day-to-day operations. The Forestry Computer and Communications Section performs such functions as hardware and software acquisition, installation and maintenance, computer applications development, information management, and the operation, installation, and repair of the statewide two-way radio system and telephone systems for the Division of Forestry throughout Florida. Related functions include: Geographic Information Systems (GIS); Global Positioning Systems (GPS); radio licensing; Internet web page management; and ongoing upgrading of computer networks. The use of GIS, GPS and remote sensing for forest protection and management activities has expanded this past year. The application of these tools provides improved decision making through its integration with core business functions. Wildfire incident mapping provides crucial information to managers, the field, and the public. Use of the Division of Forestry Internet site at www.fl-dof.com continues to increase (160,000 hits annually) with new information added continually.

During fiscal year 2000-2001, the section implemented the third of the division's three-year, statewide office automation and telecommunications upgrade that included the replacement of over 900 mobile and 400 portable radios. Tactical communications in support of emergency operations were enhanced with the purchase of two trailer-mounted towers and associated radio equipment. Coordination continued on the implementation of a statewide emergency mutual-aid radio channel that will facilitate communications with all emergency response agencies. Several telephone systems were upgraded or expanded during this period, including the systems at Myakka River District Office, Punta Gorda Forestry Station, Bushnell Forestry Station, Carrabelle Forestry Station/Tate's Hell State Forest, and the Jacksonville District Office.

The fourth support function of the Forest Resource Planning and Support Services Bureau is statewide responsibility for purchasing, managing, and maintaining all specialized fire fighting/suppression vehicles and equipment for the Division of Forestry, as well as staff responsibility for management of the 15 major field unit repair facilities. The diverse firefighting equipment managed includes 211 medium transports with bulldozers, 30 truck-tractors, 21 heavy-duty bulldozers, 60 brush patrols with 300- to 750-gallon water suppression capabilities, and 200 4x4 pickup trucks equipped with 80- to 100-gallon water suppression capabilities. The division purchased approximately \$4.5 million in vehicles and equipment replacements in fiscal year 2000-2001 to fulfill fire suppression and land management responsibilities, meet safety objectives, and to



ensure that emergency demands for fire-readiness and other disaster assistance are met. Among major items purchased were transports, truck-tractors, medium dozers, patrols and pickups. The fleet of five 5,000-gallon water tankers is being upgraded with a new high-pressure pump with top-mounted turret and improved foam capabilities that will greatly improve the division's firefighting capabilities on major wildfires.

The division received a federal excess Caterpillar D7E dozer at an estimated value of \$280,000 that was refurbished at Lake City Central Shop at a cost to the Department of only \$20,000, and

assigned to the Lakeland District to meet the need for a heavy dozer in that area. Additionally, the Department has purchased three Posi-Trac cutting machines to be used by the management team in mowing areas near homes to reduce the hazard of wildfires.

Providing forest and environmental conservation educational opportunities to the public is crucial to promoting understanding of and preserving respect for Florida's forests and the environment. The division meets this growing need through three programs. Middle school and high school students in Future Farmers of America (FFA) participated in two week-long Forestry Training Camps conducted at O'Leno State Park with a total of 110 FFA students participating. Approximately 800 FFA students from FFA clubs in 80 Florida schools participated in the annual statewide district forestry contests, culminating with 12 schools competing in the state championship in Perry. The Florida Forests Forever Showvan continued visiting schools, fairs and other community agricultural events, sharing the message of the value and importance of Florida's forests through an interactive computer CD-ROM program. The Showvan has reached over 85,000 visitors since its beginning in October 1997. Numerous requests for educational materials and information on Florida state forests and lands are received throughout the year. Forestry staff members throughout the state are also continually involved in environmental education programs, Project Learning Tree workshops, and Envirothons.

FORESTRY YOUTH ACADEMY

The fourth core program of the Division of Forestry is the Forestry Youth Academy, located in Goethe State Forest in Levy County. The academy began operating in June 1996 and is a low-risk residential program for juvenile offenders 16 to 19 years of age, offering academic and occupational programs in both forestry training and life skills that can help offenders redirect their lives toward productive goals.

The strategy used to change the participants' lives is to correct their academic deficiencies by offering them a high school program based on competency learning. Another important element is teaching them marketable skills, such as firefighting, carpentry, small engine repair, heavy-equipment operations, culinary arts, and agri-science. Moreover, the academy teaches life skills such as budgeting, cooking, and job interview techniques that will be useful in the years following graduation from the program.

Since the Forestry Youth Academy is also a second-chance school, the emphasis is on learning in a work setting. By doing this, students gain important work experience, which is the foundation of a work ethic. By-products of this training are the many projects left for the forestry and local communities to use and enjoy.



AGRICULTURAL-ENVIRONMENTAL LEADERSHIP AWARDS

The eighth annual Commissioner's Agricultural-Environmental Leadership Awards were presented to two Florida agricultural operations in recognition of their leadership in promoting progressive environmental practices.

The 2001 winners were Barthle Brothers Ranch and Carlton 2x4 Ranch.




Barthle Brothers Ranch is a multifaceted agricultural enterprise located in Pasco County. This 8,000-acre ranch operates in the face of encroaching urban development, yet remains a model of agricultural diversity with family members each contributing their unique strengths.



Located south of Arcadia in DeSoto County, Carlton 2x4 Ranch integrates cattle and land management with a strong emphasis on encouraging the presence of wildlife at the ranch.

The winners were selected from a group of finalists by a selection committee made up of representatives from The Nature Conservancy, the state's Water Management Districts, the Florida Farm Bureau, the Florida Cattlemen's Association, the Florida Dairy Association, the Florida Department of Environmental Protection, the Florida Fish and Wildlife Conservation Commission, the Florida Fruit and Vegetable Association, Florida Citrus Mutual, and the Florida Forestry Association. The presentation took place at the Florida Farm Bureau's annual convention in Orlando on October 29, 2001.



Safeguarding Consumers

Consumer Services

The Department of Agriculture and Consumer Services is the state's clearinghouse for consumer information, complaints and protection. During fiscal year 2000-2001, the Department handled more than 40,400 written complaints; answered approximately 1,050 phone calls per day; and filled a daily average of 250 requests for brochures, pamphlets and booklets. Representatives also presented many public talks on consumer-related topics and distributed thousands of educational brochures to various organizations throughout Florida. In addition to those activities, the Division of Consumer Services web site, www.800helpfla.com, offers Florida consumers timely information and resources.

CALL CENTER

The Division of Consumer Services Call Center of 19 staff members operates the consumer hotline, 1-800-HELPFLA or 1-800-FLAYUDA for Spanish-speaking consumers. The center handled approximately 267,700 calls from consumers during fiscal year 2000-2001. The phone system provides call data for management to analyze, helping it to make informed decisions in order to effectively allocate resources to cover phone calls during peak periods, resulting in a dramatically reduced abandoned call rate. In ongoing consumer surveys, 76 percent of those surveyed stated that the Call Center is doing an extremely good job of providing accurate and courteous consumer assistance.

The Call Center assists individuals daily on consumer-related issues, providing information or referring callers to the appropriate governmental offices. Consumer questions cover the many areas that the Department regulates, including telemarketing, no sales solicitation, sellers of travel, solicitors of contributions, business opportunities, health studios, dance studios, pawn shops, assistive technology devices, and the state's new car "Lemon Law." By serving as the state's clearinghouse for consumer complaints, these analysts also respond to inquiries on subjects ranging from landlord and tenant disputes, to buying clubs, to sweepstakes and retail store regulations. Call Center staff enter records of all calls into the Department's computer database in order to develop statistical information. Each call is categorized in a specific subject category in the database which helps the Department track those issues that are most currently of interest to consumers. This record keeping enables consumer education efforts to be tailored to specific topics or areas.

CONSUMER COMPLAINTS

The Complaints Section serves as the state's clearinghouse for matters relating to consumer protection, consumer information, and general consumer service issues. The section receives written complaints dealing with a multitude of subjects and attempts to resolve issues with informal mediation. Staff members also forward complaints to other agencies that have jurisdiction over the problem. Because of the wide range of complaints received by the Complaints Section, each analyst is required to be knowledgeable in many areas. Some of the areas that are not regulated by other agencies but are handled by the Complaints Section include beauty products, swimming pools, landscaping, and investments. For fiscal year 2000-2001, 23,208 new written complaints and inquiries were received and processed by the Complaints Section. Non-regulated complaints administered by the Department outweighed regulated complaints by 57 to 43 percent. The top five complaint categories were: no sales solicitation, credit and banking, vacation plans, communications, and home/phone solicitation.

REGULATED PROGRAMS

The Department is responsible for a variety of consumer service programs, including assistive technology devices (ATD), business opportunities, dance studios, health studios, new car "Lemon Law," motor vehicle repair shops, pawn shops, no sales solicitation, sellers of travel, solicitation of contributions, and telemarketing. Each activity processes registrations and/or filings and responds to complaints applicable to that program area. Each of these activities falls under the jurisdiction of a statute that Florida legislators have created to protect consumers. Most of the programs require a bond or letter of credit to ensure consumer refunds in the event the business defaults.

Assistive Technology Devices (ATD)

The Assisted Technology Devices (ATD) Program registered 148 manufacturers. Businesses that are involved in selling, leasing, or manufacturing manual and motorized wheelchairs, motorized scooters, voice-synthesized computer modules, optical scanners, talking software, Braille printers, and other similar devices were required to register with the Department and provide warranties on their products. Effective July 1, 2001, the Florida Legislature repealed the portion of the statute giving the Department jurisdiction over manufacturers of ATDs.

Business Opportunities

The Business Opportunities Program requires individuals who sell or lease any products, supplies or services for the purpose of starting a business to register and disclose certain information to prospective purchasers. More than 1,100 written complaints were filed pertaining to business opportunities, and consumers received over \$116,600 in refunds, while more than \$23,100 in administrative fines were posted in fiscal year 2000-2001.

Dance Studios

The Dance Studio Program requires those who offer dance lessons, or have dance studios, to be registered with the Department. In some instances, the registrants are required to post a surety bond or letter of credit. Last year, \$13,784 was refunded to consumers.

Health Studios

According to the Health Studio Contract Law, the Department's Health Studio Program regulates health clubs or those who offer health club activities, or who offer equipment used to further physical exercise. Some health studios are required to post security to satisfy claims that may arise as a result of violations of Florida law. For fiscal year 2000-2001 the Department registered 842 health studios in Florida, processed 874 complaints, refunded nearly \$47,000 back to consumers, and posted \$37,328 in administrative fines to various studios.

Lemon Law

The Department administers the Florida New Motor Vehicle Warranty Enforcement Act, commonly known as the "Lemon Law." Personnel respond to consumer complaints and inquiries, provide information about the law, and determine whether claims are potentially eligible for arbitration before the Florida New Motor Vehicle Arbitration Board.

In fiscal year 2000-2001, the Department re-certified informal dispute settlement procedures submitted by General Motors, Honda/Acura, Nissan/Infinity, Rolls-Royce/Bentley, Saab, Volkswagen/Audi, Alfa Romeo, Porsche, American General/Hummer, Isuzu, Hyundai, Kia Motors, Daewoo, Lexus, Saturn and Workhorse Custom Chassis to utilize the Better Business Bureau Autoline. During that year, the Department also handled 22,734 telephone calls on the Lemon Law hotline, 1-800-321-5366. In addition, 1,411 written arbitration requests were received and more than 3,000 Informal Dispute Settlement Program applications were processed.

Safeguarding Consumers

Motor Vehicle Repair Shops

The Department handles the registration and compliance of motor vehicle repair shops according to the Motor Vehicle Repair Act. State law also requires a comprehensive disclosure of repair estimates to consumers for work exceeding \$100. During fiscal year 2000-0001, the Department registered 20,295 shops. There were more than 7,700 violations and investigations conducted by the Bureau of Motor Vehicles. The 2,254 complaints received by the Department resulted in more than \$266,500 being refunded to consumers. Additionally, \$56,585 in administrative fines was collected.

Pawn Shops

The Pawn Shop Program handles the registration of those who engage in the activity of advancing funds in exchange for personal property that will be stored in the pawnbroker's possession until the consumer redeems the merchandise according to the agreed upon terms, or the pawn contract defaults. During fiscal year 2000-2001 the Pawn Shop Section registered 1,079 shops statewide and posted \$19,000 in administrative fines.

No Sales Solicitation

The No Sales Solicitation Law is a privacy law that helps protect consumers from unwanted telephone solicitation. In order for consumers to be protected from unwanted telephone solicitors, they may annually subscribe to the "No Sales Solicitation Calls" List. When consumers are on the subscriber list, they may file a complaint with the Department if they receive an unwanted phone call from a non-exempt business. During fiscal year 2000-2001, the program received 7,227 complaints and collected over \$30,500 in fines.

The Department received 30,358 new subscribers this year while sustaining approximately a 75 percent renewal rate. The total number of subscribers on the list at the end of the fiscal year was 136,915.

Sellers of Travel

The Department regulates travel agencies in Florida according to the Sellers of Travel Act. During fiscal year 2000-2001, the Department registered 1,714 sellers of travel and independent agents while processing 3,602 complaints. The program obtained refunds totaling more than \$119,227 for consumers during the fiscal year.

Solicitation of Contributions

The Solicitation of Contributions Act is a program in which eligible charitable organizations, sponsors, professional fund-raising consultants, and professional solicitors are required to register with the Department according to Chapter 496, Florida Statutes. The total number of registered organizations (charities, sponsors, professional solicitors, and fund-raising consultants) reached 7,678 for fiscal year 2000-0001.

Telemarketing

The Florida Telemarketing Act requires non-exempt businesses that engage in the sale of consumer goods or services by telephone to be licensed and post security. In fiscal year 2000-2001, the Department registered 406 businesses and handled 1,991 telemarketing complaints.

INVESTIGATIONS

The Department's Investigations Unit opened approximately 3,330 cases during fiscal year 2000-2001. Investigators conduct covert investigations initiated by the Department as well as respond to complaints received by the Department. They may also approach businesses that are not operating in accordance with Florida law and take the steps necessary to get those businesses into statutory compliance. High-volume cases for the year included price-gouging, after-market crash parts, solicitors of charitable contributions, sellers of travel and business opportunities.

CONSUMER EDUCATION

To better educate Florida's citizens, the Department has developed an educational outreach program through which Department representatives present consumer-related topics to groups and organizations throughout the state. During fiscal year 2000-0001 more than 5,600 citizens benefited from information presented by Department speakers. The Department plans to continue to provide speakers upon request.

Other educational efforts include revamping the Division of Consumer Services web site to include more registration information relating to the many programs the Department regulates; alerting consumers of scams and frauds through the media; distributing a variety of brochures regarding issues of consumer concern; and circulating relevant consumer articles to interested groups. The Department printed more than 500,000 brochures on various consumer-related topics and produced 10,000 four-color magnets for distribution throughout the state to help publicize the 1-800-HELPFLA hotline telephone number and the division's web site.

PETROLEUM INSPECTION

Through its Division of Standards, the Department regularly conducts inspections of the petroleum distribution system and analyzes samples of petroleum products to ensure that consumers are offered quality products at fair measure.

In fiscal year 2000-2001, more than 99 percent of the samples collected and analyzed from 13 billion gallons of petroleum fuel distributed throughout Florida met state standards, which are considered among the strictest in the nation. The Department issued 494 stop-sale orders to prevent the sale of 8.7 million gallons of sub-standard fuel.

The quality of gasoline, kerosene, diesel and fuel oil are determined at Department laboratories through analyses of octane rating, distillation, vapor pressure, sulfur content and flash point.

Laboratory personnel analyze antifreeze for corrosion, freezing point, boiling point, and chemical content as part of the antifreeze registration and regulatory program. Similarly, brake fluid also must pass strict standards for boiling point, elastomer swelling, and chemical content before being registered by the Department for sale to the public. The Department registered 365 brands of antifreeze and brake fluid as acceptable products to be marketed in Florida.



Safeguarding Consumers

In all, laboratory analysts at Department laboratories in Tampa, Tallahassee and Port Everglades analyzed 64,790 samples of petroleum fuels, antifreeze and brake fluid.

Department inspectors conducted approximately 235,336 petroleum inspections on 177,000 retail dispensers, vehicle tanks, wholesale meters and storage tanks at 9,485 petroleum facilities throughout Florida.

Inspections included calibrating tests, proper installations and maintenance of measuring devices, and labeling of petroleum dispensers. As a result of these inspections, 6,704 pumps were taken out of service because of improper calibration, and 20,492 correction notices were issued for poorly maintained pumps.

The Department handled 2,717 petroleum-related consumer complaints as a result of posting the 1-800-HELPFLA consumer hotline decal on petroleum dispensers. Complaints have concentrated on fuel quality, meter accuracy, and price. The field staff is charged with responding to these complaints within 24 hours.

The Department continues to use numerous fraud investigation techniques, including the deployment of undercover vehicles to further ensure that consumers receive fair measure from petroleum pumps. The unmarked vehicles have a specially designed and calibrated gasoline tank that enables a trained inspector to determine a pump's calibration without a service station operator's knowledge. The undercover vehicles have confirmed that most petroleum pumps are accurate and that consumers are receiving fair measure.

WEIGHTS AND MEASURES

The Department performed inspections and tests on more than 71,000 weighing and measuring devices, including retail scales, prescription balances, livestock scales, truck scales, and taxi meters. Of those inspected, 9,626 were found out of compliance with state standards and ordered corrected; another 1,706 were immediately taken out of service.

Department inspectors routinely check the accuracy of net contents and labels of packaged goods such as dry goods, standard pack food commodities, household items, building and construction materials, gardening products, and hundreds of other products purchased daily by consumers and businesses in the state. In the 2000-2001 fiscal year, inspectors sampled lots representing more than 1.7 million packages with a value exceeding \$4.8 million. Stop-sale orders were placed on 23,614 packages that contained less than the stated contents or failed to provide the required information on the label. Many more packages were recalled or relabeled by producers as a result of Department inspections.

Inspectors randomly tested 21,775 items for price accuracy in 396 businesses, primarily grocery, department, discount, drug, building supply, and other retail stores. Overall results showed that 1.1 percent scanned at more than the posted price and 1.9 percent scanned at less than the price advertised. Violations were corrected immediately, and 53 businesses that failed to meet the 98 percent national accuracy standard faced additional sanctions and testing.



In the state metrology laboratory, the state primary standards of mass, length, and volume were used in comparing and calibrating more than 11,000 devices used by state inspectors, laboratories, high-tech industries, and commercial scale repair agencies, as well as more than 800 test measures used to check the accuracy of gas pumps and wholesale meters. While providing Florida citizens and industries with calibration services traceable to the national standards, the lab also performs special tests, including verifying the uniformity of lottery balls used by the Florida Lottery and standardizing grain samples for use in testing moisture determining equipment at commercial grain elevators.

FAIR RIDES INSPECTION

All amusement rides, except those at large permanent amusement parks that are exempt by law, are inspected and permitted each year by the Department. Permanent amusement rides, which are located at fixed sites, are inspected twice each year, and temporary amusement rides, such as those used by carnivals, are inspected each time they are moved and are set up.

The Department has 15 inspection specialists who inspect and permit all amusement rides in the state. In fiscal year 2000-2001, the Department issued permits for more than 1,800 amusement rides and conducted 10,300 inspections statewide. Those inspections identified about 10,000 deficiencies, which were corrected before the rides were allowed to open to the public. During the past year, the Department also issued 196 stop-operation orders for unsafe, uninsured, or uninspected amusement rides. The Department also investigates accidents and mechanical failures and, when appropriate, closes or impounds unsafe amusement rides.

The Florida Amusement Device and Attraction Advisory Committee was created by the Commissioner of Agriculture to advise and consult with the Department on amusement ride issues. This committee, which is appointed by the Commissioner, includes members from the amusement industry, fair

industry, amusement parks, as well as members who are technical or subject matter experts. The committee holds at least two public meetings annually to discuss safety issues, ride inspections, ride equipment, and other matters in support of the Department's inspection program.

The Department is a member of the American Society of Testing and Materials, Committee F-24, which develops standards for the manufacture, fabrication, performance, and testing of amusement rides and devices. The Department is also a member of the Council for Amusement and Recreational Equipment Safety (CARES), which is a national association of government regulatory officials that shares information among members and works with the U.S. Consumer Products Safety Commission on amusement ride issues. Department inspectors benefit from comprehensive on-the-job training; structured training seminars developed by the Department; and continuing education seminars offered by the amusement industry, amusement ride manufacturers, safety organizations, engineers and other subject matter experts. The Department has an amusement ride inspection program that has earned a reputation as one of the most comprehensive amusement ride inspection programs in the country.



LP GAS INSPECTION

During the 2000-2001 fiscal year, a record 8,926 licenses were issued. Department personnel conducted 4,781 LP gas facility inspections; conducted 1,012 investigations into illegal activities, complaints, and accidents; and administered 1,560 examinations. Additionally, the Department took 987 enforcement actions, including 319 notices of non-compliance, 70 redtags, 24 administrative complaint actions, and 539 cease and desist notices.

As a part of the industry and consumer outreach programs, the Department published and distributed consumer brochures on gas grill safety, home heating safety, safe living with propane, and reporting of residential LP gas system changes to gas suppliers.





Promoting Employee Excellence

TRAINING AND DEVELOPMENT

In order to ensure optimal service to the citizens of Florida, the Department invests in its employees by providing many training, educational, development, enrichment, and recognition opportunities. This supportive environment contributes to the superior level of personal commitment and professional pride of its staff.

The Department continuously trains its employees, thus increasing their knowledge, skills, and abilities in order to provide the highest quality of service. This year 1,521 employees participated in traditional training classes, such as New Employee Orientation, Achieving Extraordinary Customer Relations, Valuing People/Human Diversity, Department Supervisory Standards Training, Instructor Training, and Computer Skills (Access, Excel, Word, WordPerfect, Project, PowerPoint, Front Page, Communicator, Paradox, and Quattro Pro). Additionally, 435 user licenses and 36 technical licenses were issued to employees to allow their participation in selected Internet-delivered management and computer classes.

Promoting Employee Excellence

Tuition waivers were issued to 106 employees so they could take classes at any of the 10 state universities that participate in the college tuition waiver program.

A total of 49 Department managers participated in the Certified Public Manager (CPM) Program. Since the program's inception, 116 have successfully completed the program and received the (CPM) designation.

AWARDS

The Department not only encourages employees to further their education, it also rewards those who attain exemplary achievements. Twenty-four nominations were submitted for Davis Productivity Awards, detailing the extraordinary efforts of 241 individuals in the Department. Award winners are announced at the end of each year.

Twenty-four employees submitted suggestions, and 23 awards were given for adopted suggestions that resulted in a cost savings of \$33,484.70. Another 68 employees were recognized for superior accomplishment and 527 for length of service to the state.



Emergency Response

WILDFIRES

The prolonged drought that has gripped the state since the spring of 1998 brought another potentially severe wildfire season for 2001. By February 2001, the state average Keetch-Byram Drought Index (KBDI) was already over 550, more than 300 points above the 35-year average and more than 100 points higher than it had been in any of the three previous years. A record-setting freeze during early January that extended down to the southern part of Lake Okeechobee increased the fire danger by adding freeze-dried vegetation to the fuel load. A normal start to Florida's summer rainy season, along with an early season tropical storm, prevented the fiscal year 2000-2001 wildfire season from extending into the summer, as happened in 1998.

Emergency Response

While there was significant potential for another catastrophic wildfire season, there were actually fewer fires than the previous fiscal year. There were 5,826 wildfires in fiscal year 2000-2001 compared to 6,233 in 1999-2000. Human-caused wildfires also decreased, with fiscal year 2000-2001 having 4,294 compared to 4,758 in 1999-2000. This was due to an excellent fire prevention program and stricter controls on open burning authorizations. The leading cause of wildfires was lightning, accounting for 1,532 of the wildfires.

In fiscal year 2000-2001, significant wildfires began in late December in the Lakeland District. Fires continued around the state until June, with the closing of the last of the fire complexes in the Perry District on the Mallory Swamp fire. Nine fire complexes were declared by FEMA as being eligible for Fire Suppression Grants: Lakeland, Okeechobee, Caloosahatchee, Orlando, Myakka, Miami-Dade/Monroe, Washington/Walton, Escambia, and Dixie/Lafayette.

It is also important to note the cost of fighting the wildfires. Fire suppression costs in 2000-2001 for all the local, state and federal agencies are estimated to be about \$22 million. In 1997-1998, the total suppression cost was \$82 million for the Division of Forestry. The Department attributes much of this cost savings to the prevention and mitigation efforts that have been undertaken in the last three years.

PESTS

Exotic pest species introduced into Florida have the potential to inflict millions of dollars of losses in crops and commodities. When pest pressure reaches non-routine and emergency proportions and no pesticide is registered for the pest, the Department may submit petitions to the U.S. Environmental Protection Agency for emergency exemptions.

During fiscal year 2000-2001, the Department's Registration Section evaluated 18 emergency exemption petitions, and exemptions were issued to control such pests as diaprepes weevils in citrus, cercospora leaf spot, lychee webworms, silverleaf white flies, greasy spot, and gall midges.

Again this year, the Department played a key role coordinating apiary inspectors, beekeepers, and U. S. Department of Agriculture field staff to obtain use of the pesticide, coumaphos to control the small hive beetle and varroa mite in honeybee colonies. Because no other pesticide alternatives are available to control these devastating beehive pests, this exemption was critically important.



As a precaution to prevent the establishment of foot-and-mouth disease in Florida, the Department issued a crisis declaration and then followed with a quarantine exemption for the use of disinfectants. The Registration Section's professional staff coordinated the efforts of both state and federal agencies to ensure this protection for Florida farmers as well as other interests.

CITRUS CANKER ERADICATION PROGRAM

In February 2000, the Governor declared a state of emergency for citrus canker-infected counties and allocated funding for eradication of the bacterial plant disease as well as for an ongoing state-wide survey of the problem.

Nine Florida counties are affected: Dade and Broward, Palm Beach, Manatee, Hillsborough, Collier, Hendry, Martin and DeSoto. If canker is suspected, plant pathologists go on-site to determine if trees are infected. When the disease is found, the area is quarantined, movement of citrus plant material from the quarantine area is prohibited, and all infected trees are destroyed. In January 2000, the Citrus Canker Eradication Program (CCEP) established a 1,900-foot zone around infected trees and began removing all exposed trees within that zone. Mandatory statewide decontamination procedures began April 1, 2000. As of October 2001, nearly 2 million trees had been destroyed.

Central to the operation of the citrus canker program was the Department's Office of Agricultural Law Enforcement, whose Bureau of Uniform Service officers expended nearly 10,000 hours of investigative support and aggressive patrol operations in the quarantined and other infected areas, surveying and mapping properties as well as removing trees. The Department also supervised more than 50 contract law enforcement officers from other counties in support of the citrus canker eradication effort. Together, the Department and the contract officers have successfully resolved hundreds of consumer-related matters regarding the removal of infected and exposed trees.



EMERGENCY SUPPORT FUNCTIONS

In the aftermath of Hurricane Andrew in 1992, the Florida Comprehensive Emergency Management Plan (CEMP) was created. Florida adopted the Emergency Support Function (ESF) structure put forth in the Federal Response Plan, creating state counterparts for the 12 functions that are common to most or all emergencies, and then adding four more to cover the needs of military support, public information, donations and volunteers, and law enforcement. A final ESF-17 was added, and Florida became the first state in the country to have an ESF dedicated to animal issues during emergencies and disasters.

Each ESF under the state's CEMP has a lead agency to coordinate organizations and resources for that ESF. The Department has two divisions designated as lead agencies under the state CEMP.

Disaster Provisions

The Division of Marketing and Development is the lead agency for ESF-11, which handles food, water and ice distribution. For large-scale emergency response efforts, they coordinate with USDA, which is the lead agency for federal ESF-11, Food and Water Distribution, under the Federal Response Plan.

Emergency Response

As the lead agency for Emergency Support Function (ESF) 11, the Department is responsible for acquiring food, water, and ice for disaster victims. In the event of a disaster, the Department provides USDA commodities to disaster relief organizations for the mass feeding of disaster victims. During the year, the Department provided more than 4,000 pounds of food, 170,640 gallons of water, and 344,800 pounds of ice to approximately 153,400 persons affected by floods in South Florida.

Animal Emergency Issues

The Division of Animal Industry is designated as the lead agency for Emergency Support Function (ESF) 17, which addresses animal issues. ESF-17 is responsible for coordinating the response of state agencies in assisting local and volunteer organizations to provide for animals affected by a disaster; and responsible for working with counties to secure the availability of animal shelters along with food, water and medical supplies for animals displaced during natural disasters or other emergency situations. This coordination may also involve identification and prevention of diseases of public health significance as well as disposal of dead animals.

During fiscal year 2000-2001, the Department continued to provide technical support and planning advice to Florida counties, industry associations, other states and groups as requested.

Disaster Animal Response Team (DART) Training

The Department and the Humane Society of the United States (HSUS) cosponsored Disaster Animal Response Team (DART) training to introduce volunteers to Florida's emergency management system and to expand state and local resources for responding to animal related emergencies.

During 2000, the Department and HSUS hosted DART training sessions for 122 volunteers, including some Department personnel. During training sessions held during the spring and summer of 2001, an additional 107 people received DART training. ESF-17 has 738 people in and around Florida who have received DART training.